DIGITAL STEREO AMPLIFIER

# DA-07

# SERVICE MANUAL

KENWOOD

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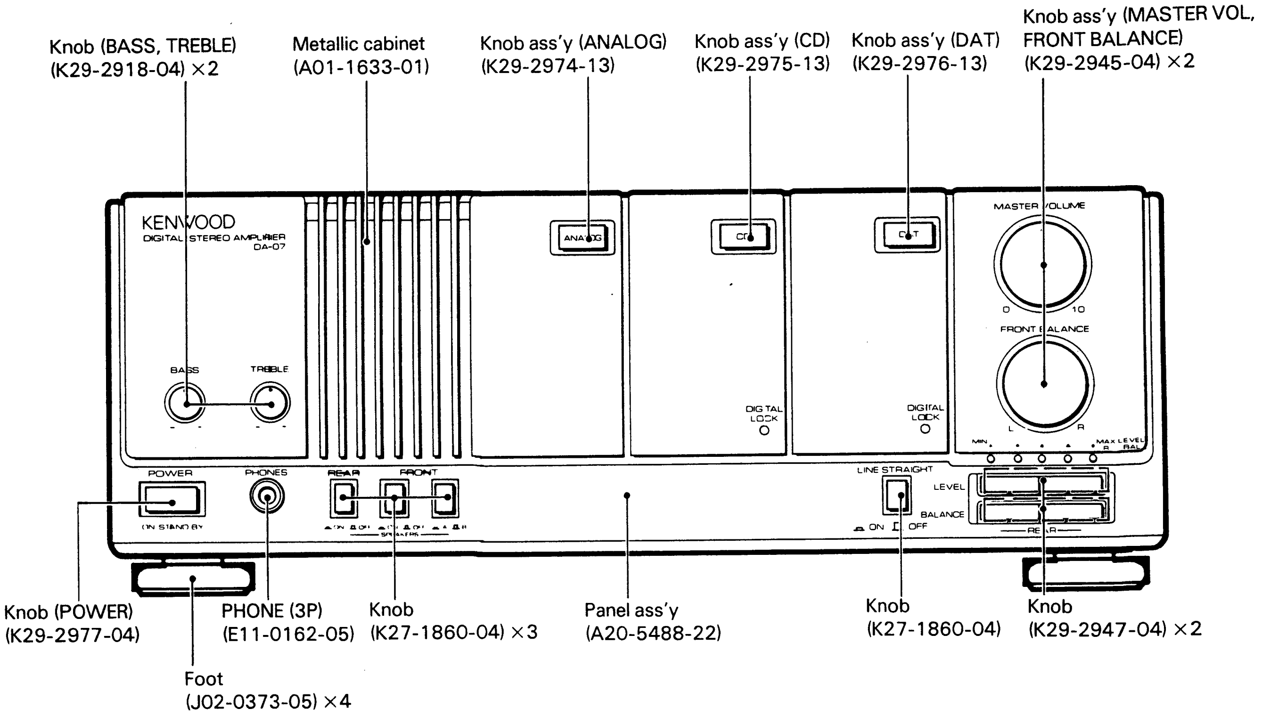
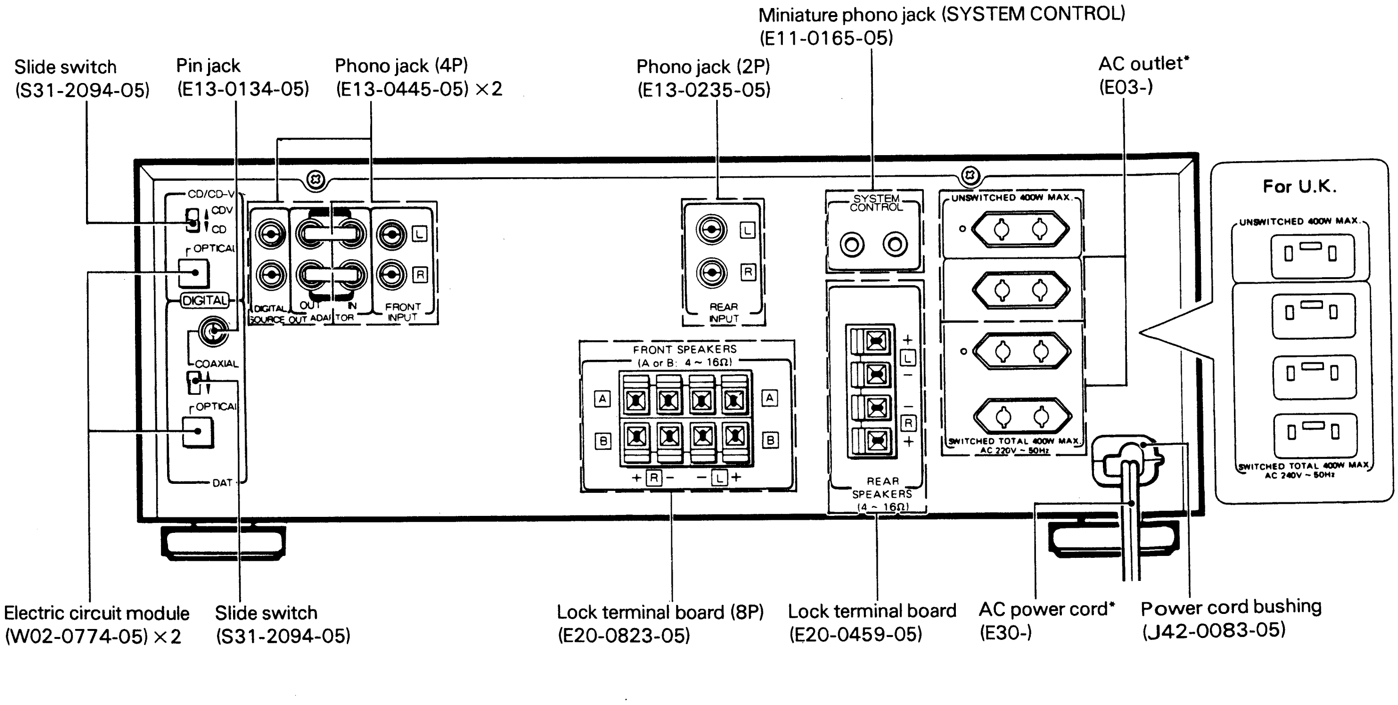
B51-3855-00(B)1496


Knob (BASS, TREBLE) (K29-2918-04) ×2
Metallic cabinet (A01-1633-01)
Knob ass'y (ANALOG) (K29-2974-13)
Knob ass'y (CD) (K29-2975-13)
Knob ass'y (DAT) (K29-2976-13)
Knob ass'y (MASTER VOL, FRONT BALANCE) (K29-2945-04) ×2
KENWOOD
DIGITAL STEREO AMPLIFIER DA-07
BASS
TREBLE
ANALOG
CD
DAT
DIGITAL LOCK
MASTER VOLUME
FRONT BALANCE
POWER
ON STAND BY
PHONES
REAR
FRONT
SPEAKERS
LINE STRAIGHT
ON OFF
LEVEL
BALANCE
REAR
Knob (POWER) (K29-2977-04)
PHONE (3P) (E11-0162-05)
Knob (K27-1860-04) ×3
Panel ass'y (A20-5488-22)
Knob (K27-1860-04)
Knob (K29-2947-04) ×2
Foot (J02-0373-05) ×4


Miniature phono jack (SYSTEM CONTROL) (E11-0165-05)
Slide switch (S31-2094-05)
Pin jack (E13-0134-05)
Phono jack (4P) (E13-0445-05) ×2
Phono jack (2P) (E13-0235-05)
AC outlet* (E03-)
For U.K.
CD/CD-V
CDV
CD
OPTICAL
DIGITAL
COAXIAL
OPTICAL
DAT
DIGITAL SOURCE OUT
OUT
IN
ADAPTOR
FRONT INPUT
REAR INPUT
SYSTEM CONTROL
UNSWITCHED 400W MAX.
SWITCHED TOTAL 400W MAX. AC 220V ~ 50Hz
SWITCHED TOTAL 400W MAX. AC 240V ~ 50Hz
FRONT SPEAKERS (A or B: 4 ~ 16Ω)
A
B
REAR SPEAKERS (4 ~ 16Ω)
Electric circuit module (W02-0774-05) ×2
Slide switch (S31-2094-05)
Lock terminal board (8P) (E20-0823-05)
Lock terminal board (E20-0459-05)
AC power cord* (E30-)
Power cord bushing (J42-0083-05)

* Refer to part list on page 47.

# CONTENTS

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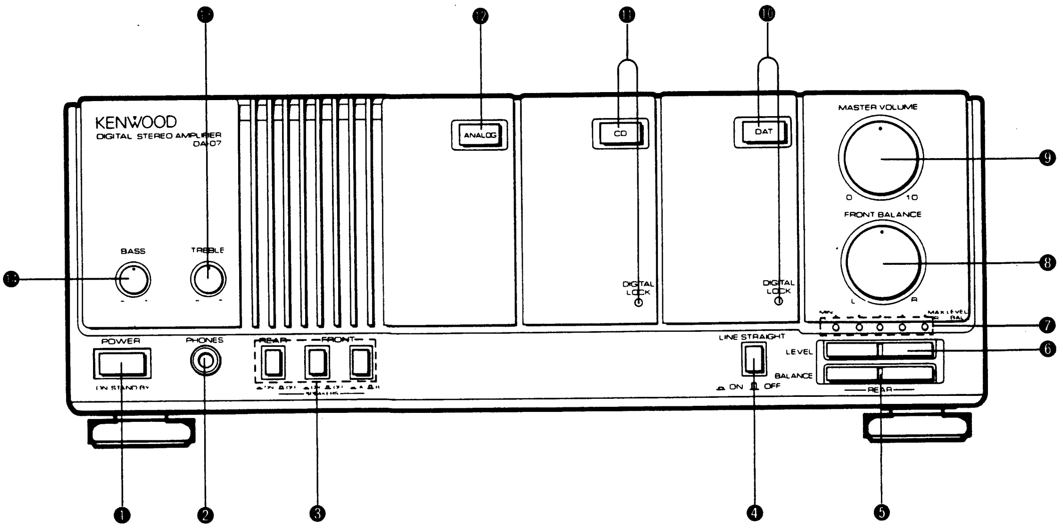
# CONTROLS AND INDICATORS


⑫
⑪
⑩
KENWOOD
DIGITAL STEREO AMPLIFIER
DA-07
BASS
TREBLE
ANALOG
CD
DAT
DIGITAL LOCK
DIGITAL LOCK
MASTER VOLUME
0
10
⑨
FRONT BALANCE
L
R
⑧
MIN
MAX LEVEL
⑦
⑥
POWER
ON STAND BY
PHONES
REAR
FRONT
LINE STRAIGHT
ON OFF
LEVEL
BALANCE
REAR
①
②
③
④
⑤

① **Power switch (POWER)**
ON – Power is on; STAND BY – power is off.
When other audio units are connected to the external AC outlet (SWITCHED TOTAL 400 MAX) in the rear panel, the ON/OFF of this switch leads to simultaneous ON/OFF of these other audio units.
When this unit is operated on the ESPACE system, the entire system power will be turned ON if one of the following units are turned ON: this unit (DA-07), Control Amplifier (DC-07), and Tuner (KT-07L).

② **PHONES terminal**
Plug in this jack when listening to stereo headphone. Turn OFF FRONT ON/OFF and REAR ON/OFF of ③ SPEAKERS alternating switch when listening to stereo headphone.

③ **SPEAKERS alternating switch**
- FRONT ON/OFF: Press when listening to speakers connected to front speaker system (A, B) terminals.
- FRONT A/B: Press when alternating front speaker system (A, B).
- REAR ON/OFF: Press when listening to speakers connected to surround rear speaker terminals.

④ **LINE STRAIGHT alternating switch**
When this alternating switch is turned OFF, the signal runs through the tone control circuit and enables tone control. When this switch is turned ON, the signal bypasses the tone control circuit and tone control is not possible, however flat frequency response is obtained.

# CONTROL AND INDICATOR

❺ **REAR BALANCE control key**
Controls left/right volume balance of rear speakers (surround speakers).
When the right key is pressed, the left speaker sound will be reduced. When the left key is pressed, the right speaker sound will be reduced. When the key is operated, it will be displayed in LED (5 levels) on the indicator ❼ .

❻ **REAR LEVEL control key**
Controls volume of rear speakers (surround speakers).
When the right side of this key is pressed, the sound will be increased. When the left side of this key is pressed, the sound will be reduced.
When the key is operated, it will be displayed in LED (5 levels) on the indicator ❼ .

❼ **Rear volume/Rear balance indicator**
Displays rear speaker (surround speaker) volume and balance position alternately according to ❺ , ❻ key operations.

❽ **FRONT BALANCE control**
Controls balance of left/right volume of front speakers or headphones.
When the control is turned clockwise, the left speaker sound is reduced. When the control is turned counter-clockwise, the right speaker sound is reduced.

❾ **MASTER VOLUME control**
Controls volume of front as well as rear speakers (surround speakers). When using surround system, simultaneous volume control is made to both front speakers and rear speakers.

❿ **DAT key/digital lock indicator (DAT/DIGITAL LOCK)**
Press when playing with DAT connected to this unit with digital signal cable or optical fiber cable. When playing, the DIGITAL LOCK indicator will light.

⓫ **CD key/digital lock indicator (CD/DIGITAL LOCK)**
Press when playing with CD or CDV connected to this unit with optical fibre cable. When playing, the DIGITAL LOCK indicator will light.

⓬ **ANALOG source key**
Press when playing with analog source connected to Control Amplifier.

- When used on the ESPACE system, operations of the Control Amplifier (DC-07) input alternating control will automatically alternate display of this unit accordingly (ANALOG, CD, DAT).

⓭ **TREBLE control**
When control is turned clockwise, treble is increased. When control is turned counter-clockwise, treble is decreased.
When the control is positioned in the center, flat treble frequency response is obtained.

⓮ **BASS control**
When the control is turned clockwise, bass is increased. When the control is turned counter-clockwise, bass is decreased.
When the control is positioned in the center, flat bass frequency response is obtained.

---

**Note:**

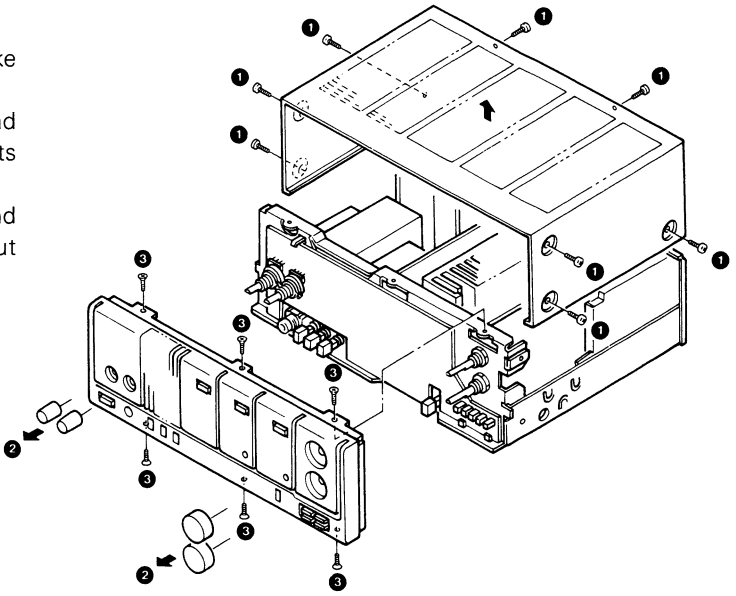
- **When this unit is to be operated on the ESPACE system, the DAT key, CD key, and ANALOG SOURCE key of this unit will not function when VIDEO 1, TAPE A or TAPE B is selected with the REC OUT selector keys of the Control Amplifier (DC-07).**

---

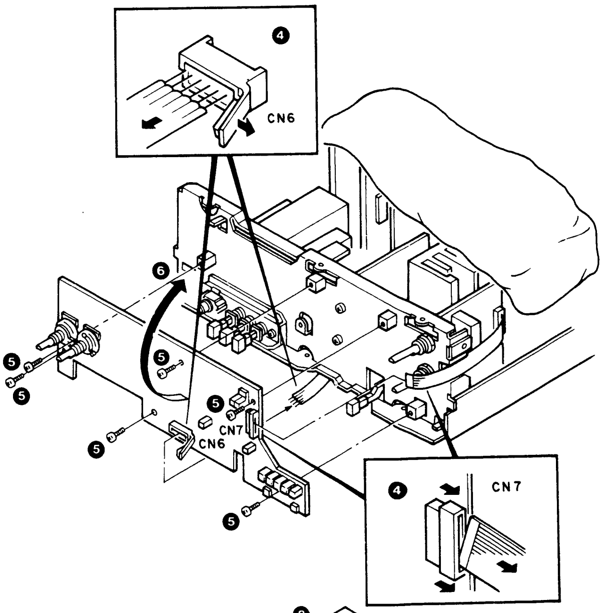
# DISASSEMBLY FOR REPAIR

**1. Removing the case**

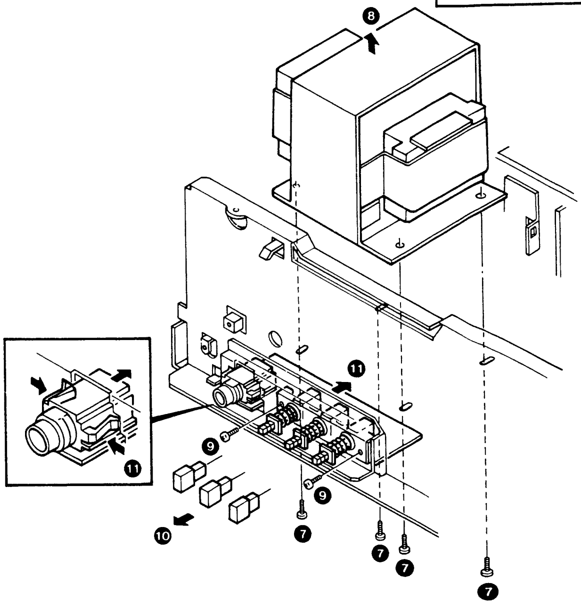
1) Remove the eight screws ① of the case, then take out the case in the direction of the arrow.
2) Draw out the BASS, TREBLE, MASTER VOLUME and FRONT BALANCE knobs from their respective shafts ②.
3) Remove the six screws ③ (three from upside and three from downside) of the front panel, then take out the front panel.



4) Disconnect flexible cords from connectors CN6 and CN7 on the signal processing unit (X32-1230-00) (A/2) as shown on the right ④.
5) Remove the six screws fixing the signal processing unit (X32-) (A/2) to the sub panel ⑤.
6) Spread a sheet of cloth over on the main body, on which in turn lay the signal processing unit as shown on the right... ⑥



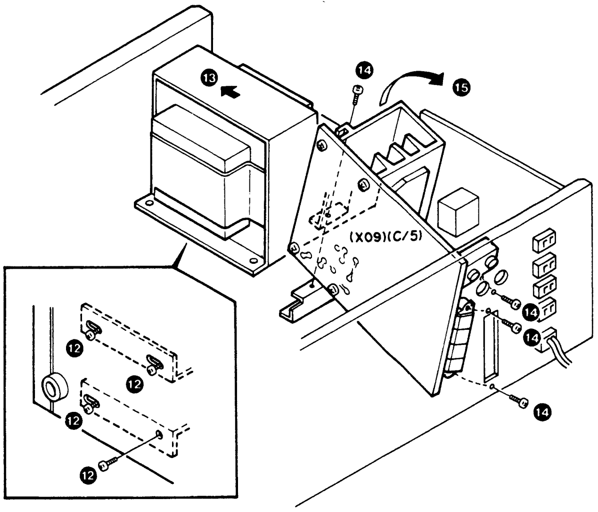
7) Remove the four screws ⑦ fixing the power transformer to the chassis.
8) Detach the power transformer in the direction of the arrow ⑧.
9) Remove the two screws ⑨ fixing the main amplifier unit (X07-2440-00) (B/3) to the sub panel.
10) Draw out the rear and front three SPEAKERS knobs from their respective shafts ⑩.
11) As shown on the right, undo the catches fixing the PHONES jack to the sub panel, and detach the main amplifier unit (X07-) (B/3) in the direction of one of the arrows ⑪.



# DISASSEMBLY FOR REPAIR

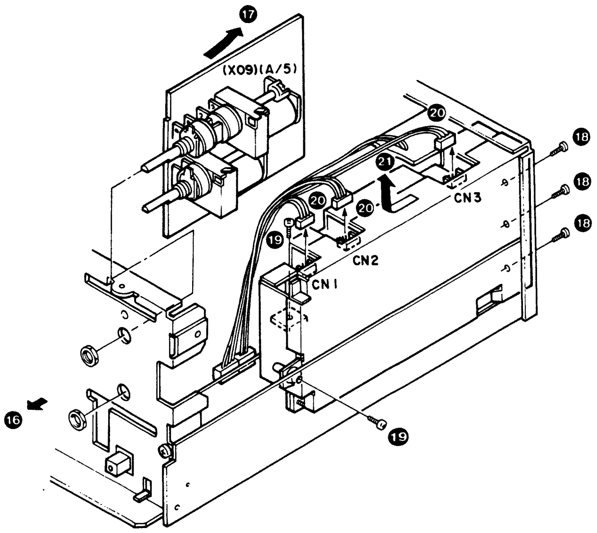
**2. Removing the audio unit (X09-2622-71) (C/5)**

1) As shown on the right, remove one of the four screws ⑫ fixing the power transformer to the chassis and loosen the rest three.
2) Slide the power transformer to the front side ⑬ .
3) Remove the four screws ⑭ fixing the audio unit (X09-) (C/5).
4) Detach the audio unit (X09-) (C/5) in the direction of the arrow ⑮ .

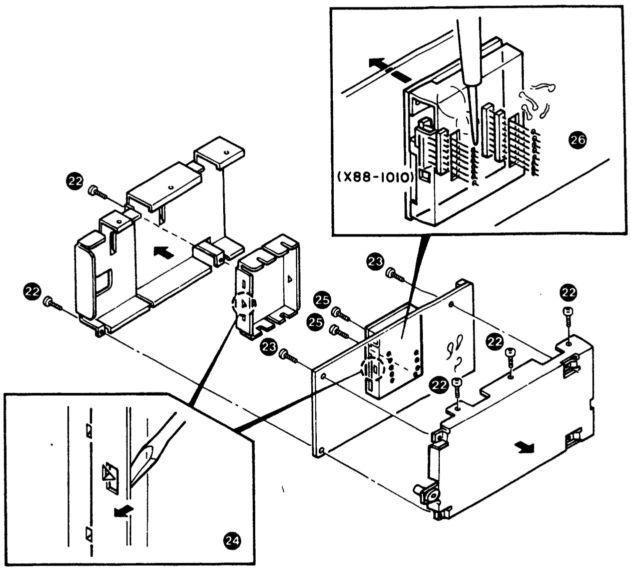


**3. Removing the audio unit (X09-) (A/5), signal processing unit (X32-) (B/2) and digital I/O unit (X88-1010-00)**

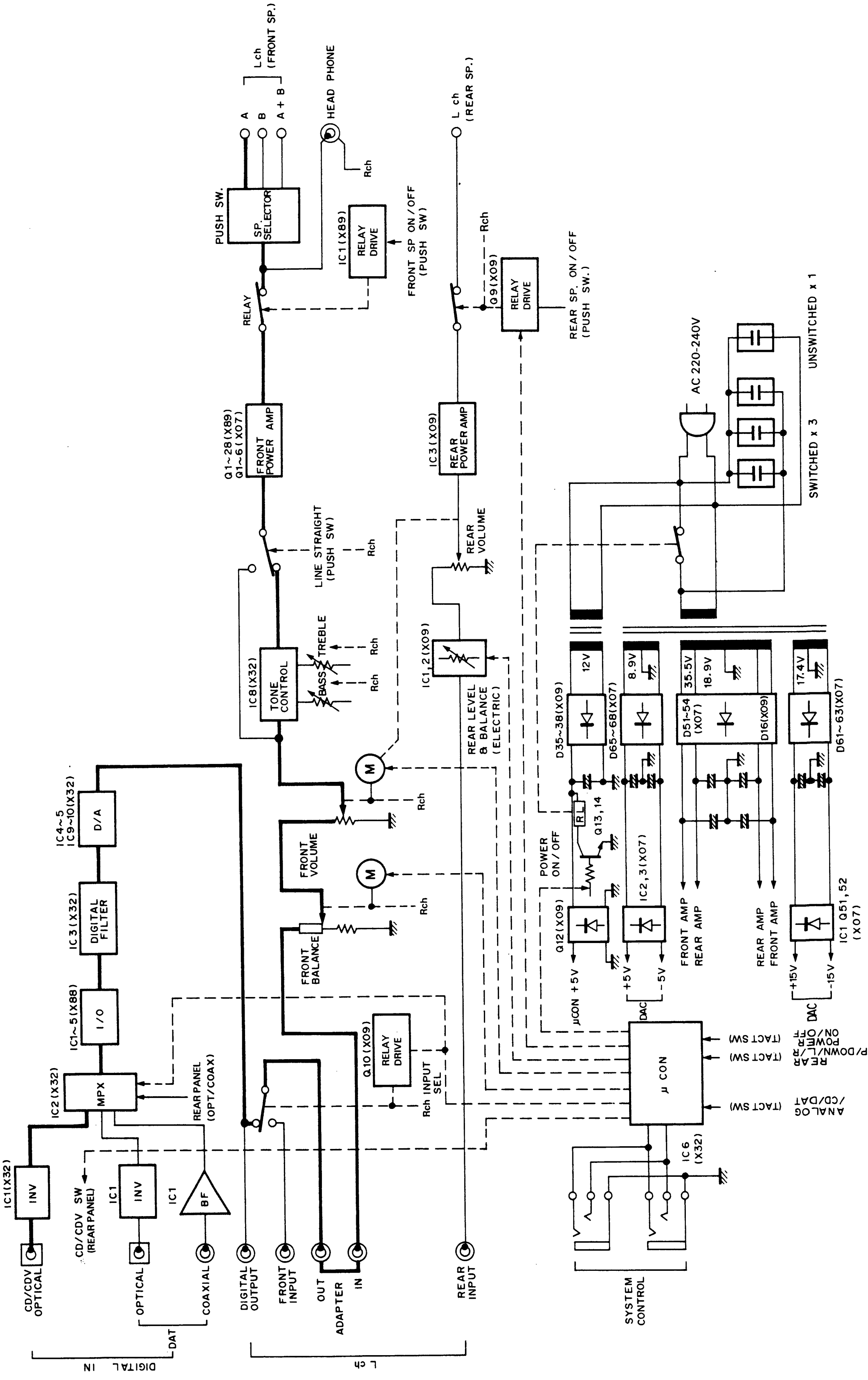
1) Remove the two nuts fixing the audio unit (X09-0) (A/5) to the sub panel... ⑯
2) Detach the audio unit (X09-) (A/5) in the direction of the arrow ⑰ .
3) Remove the three screws ⑱ fixing the shield plate to the rear panel.
4) Remove the two screws ⑲ fixing the shield plate.
5) Disconnect connectors CN1, CN2 and CN3 ⑳ on the signal processing unit (X32-) (B/2).
6) Lift up the shield plate in the direction of the arrow ㉑ .



7) Remove the five screws ㉒ fixing the shield plate.
8) Remove the two screws ㉓ fixing the signal processing unit (X32-) (B/2) to the shield plate.
9) Undo the catches of the shield cover, then take out the shield cover... ㉔
10) Remove the two screws ㉕ fixing the digital I/O unit (X88-1010-00).
11) As shown on the right, unsolder two points and detach the digital I/O unit (X88-1010-00)... ㉖
In reinstallation, be careful not to handle the shield cover.



# BLOCK LEVEL DIAGRAM


CD/CDV OPTICAL
OPTICAL
COAXIAL
DAT
DIGITAL IN
IC1(X32) INV
CD/CDV SW (REAR PANEL)
IC1 INV
IC1 BF
IC2(X32) MPX
REAR PANEL (OPT/COAX)
IC1~5(X88) I/O
IC3(X32) DIGITAL FILTER
IC4~5 IC9~10(X32) D/A
DIGITAL OUTPUT
FRONT INPUT
OUT
IN
ADAPTER
L ch
REAR INPUT
Rch INPUT SEL
Q10(X09) RELAY DRIVE
FRONT BALANCE
FRONT VOLUME
M
Rch
IC8(X32) TONE CONTROL
TREBLE
BASS
LINE STRAIGHT (PUSH SW)
Q1~28(X89) Q1~6(X07) FRONT POWER AMP
RELAY
IC1(X89) RELAY DRIVE
FRONT SP ON/OFF (PUSH SW)
PUSH SW.
SP. SELECTOR
A
B
A + B
L ch (FRONT SP.)
HEAD PHONE
IC1,2(X09)
REAR LEVEL & BALANCE (ELECTRIC)
REAR VOLUME
IC3(X09) REAR POWER AMP
Q9(X09) RELAY DRIVE
REAR SP. ON/OFF (PUSH SW.)
L ch (REAR SP.)
AC 220-240V
SWITCHED x 3
UNSWITCHED x 1
D35~38(X09)
12V
D65~68(X07)
8.9V
D51~54 (X07)
35.5V
18.9V
D16(X09)
D61~63(X07)
17.4V
R L
Q13,14
POWER ON/OFF
Q12(X09)
μCON +5V
IC2,3(X07)
+5V
-5V
DAC
FRONT AMP
REAR AMP
REAR AMP
FRONT AMP
IC1 Q51,52 (X07)
+15V
-15V
DAC
μ CON
(TACT SW) POWER ON/OFF
(TACT SW) REAR UP/DOWN/L/R
(TACT SW) ANALOG/CD/DAT
IC6 (X32)
SYSTEM CONTROL

# CIRCUIT DESCRIPTION

## 1. Functions of Components

### 1-1 Power amplifier unit (X07-2442-71)

| Component | Use/Function | Operation/Condition/Compatibility |
|---|---|---|
| IC1 | For DAC analog section power supply | |
| IC2, 3 | For DAC digital section power supply | |
| Q1～4 | Final transistors | |
| Q5, 6 | For temperature compensation | |
| Q51, 52 | For DAC analog section power supply | |
| D51～54 | For rectification | |
| D55, 56 | For tone amplifier power supply | |
| D57, 58 | For class A section power supply | |
| D59, 60 | For protection | |
| D61～68 | For DAC section rectification | |
| D69 | For DAC analog section power supply | |
| D70～73 | For measure against static electricity | |

### 1-2 Audio unit (X09-2622-71)

| Component | Use/Function | Operation/Condition/Compatibility |
|---|---|---|
| IC1 | Buffer amplifier | Buffer amplifier for IC2 electronic VR |
| IC2 | Electronic VR | Rear speaker output level setting. By three control signals, this attenuates the audio signal in the range of 0 to −80 dB in steps of 1 dB. |
| IC3 | Rear speaker power amplifier | Power amplification of rear speaker signal |
| IC4 | Constant-voltage regulated power supply | Three-terminal regulator of +12 V constant-voltage power supply |
| IC5 | Motor drive | Drives the motor of the motor VR for master volume control. |
| IC6 | Motor drive | Drives the motor of the motor VR for front balance control. |
| Q1, 2 | Muting | Rear speaker input muting. Controlled by Q7. |
| Q7 | Muting driver | Turns ON/OFF Q1 and Q2. Controlled by pin 14 of microprocessor IC6 (X32-). |
| Q8 | Constant-voltage regulated power supply | For −12 V |
| Q9 | Relay drive | Rear speaker output relay drive. Controlled by pin 18 of microprocessor IC6 (X32-). |
| Q10 | Relay drive | Analog/digital selection relay drive. Controlled by pin 16 of microprocessor IC6 (X32-). |
| Q11 | Motor drive control voltage control | Controls the rotating speed of the motor VR for master volume control. Controlled by pin 13 of microprocessor IC6 (X32-). |
| Q12 | Constant-voltage regulated power supply | For +5 V. Microprocessor backup power supply. |
| Q13, 14 | Relay drive | AC primary ON/OFF relay drive. Controlled by pin 15 of microprocessor IC6 (X32-). |
| D1, 2 | For muting | |
| D11, 12 | For measure against static electricity | |
| D13 | For muting | |
| D14, 15 | For electronic VR power supply | |
| D16 | For rectification | |
| D17～22 | For measure against static electricity | |
| D23 | For relay | |
| D24～31 | For measure against static electricity | |
| D32 | For relay | |
| D33 | For microprocessor power supply | |
| D34 | For relay | |
| D35～38 | For microprocessor power rectification | |

# CIRCUIT DESCRIPTION

## 1-3 Signal processing unit (X32-1230-00)

| Component | Use/Function | Operation/Condition/Compatibility |
|---|---|---|
| IC1 | Inverter | Waveform shaping and coaxial input amplifier |
| IC2 | Multiplexer | Input selection switch, which performs selection between inputs by combination of microprocessor CD/DAT signal and S2 (COAXIAL/OPTICAL) signal. |
| IC3 | Digital filter | |
| IC4 | D-A conversion | |
| IC5 | I-V conversion | |
| IC6 | Microprocessor | |
| IC7 | Microprocessor reset circuit | |
| IC8 | Tone amplifier | |
| IC9, 10 | LPF and line amplifier | |
| Q1, 2 | Deemphasis ON/OFF | |
| Q3 | Output relay switch | |
| Q4, 5 | Deemphasis control level shift circuit | |
| Q6 | CD lock display switch | |
| Q7 | DAT lock display switch | |
| D1 ~ 12 | For measure against static electricity | |
| D13, 14 | Input selection OR circuit | |
| D15 | Output relay counter action prevention | |
| D16, 17 | Serial communication impedance selection | |
| D18 ~ 30 | Display LEDs | |

## 1-4 Digital I/O unit (X88-1010-00)

| Component | Use/Function | Operation/Condition/Compatibility |
|---|---|---|
| IC1 | Digital audio data demodulation | |
| IC2 | VCO | |
| IC3 | PLL loop filter | |
| IC4 | Inverter | |
| IC5 | Monostable multivibrator | |
| D1 | Reset discharge | |
| D2 | Emphasis line | |
| D3 | Emphasis cancellation at muting | |
| D4 ~ 6 | Digital muting line | |
| D7 | Reset line at enabling | |
| D8 | Power reset | |
| D9 | Enable line discharge | Unused because of enable "LOW". |
| D10 | External reset line | |

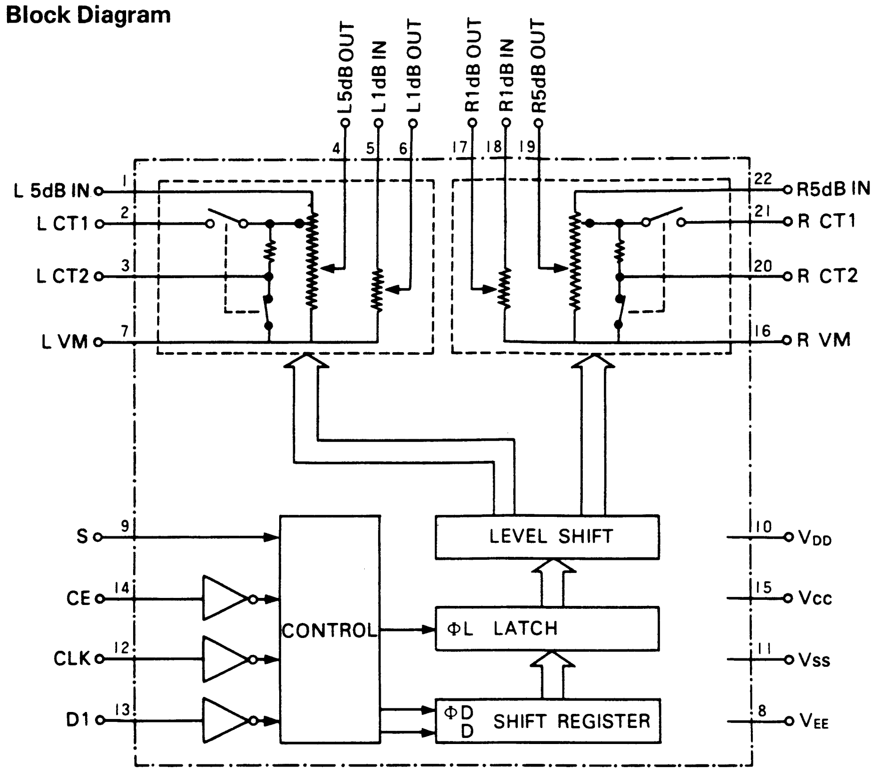
### 1-5 Main amplifier unit (X89-1020-14)

| Component | Use/Function | Operation/Condition/Compatibility |
|---|---|---|
| IC1 | Protection | |
| Q1～4 | Class A first stage differential amplification circuit | |
| Q5～8 | Class A first stage cascode circuit | |
| Q9～12 | Class A second stage differential amplification circuit | |
| Q13～16 | Class A third stage differential amplification circuit | |
| Q17, 18 | Class A cascode circuit | |
| Q19, 20 | Class A current mirror circuit | |
| Q21～24 | Predriver | |
| Q25～28 | Current limiter | Applies current limitation to final transistors at time of overload drive. |
| Q29 | Protection driver | When the current limiter works, transmits that signal to the protection IC (IC1). |
| Q1, 2 | Cascode base voltage keeping | |
| Q3, 4 | Current mirror VBE compensation | |
| Q5～8 | Reverse current prevention | |

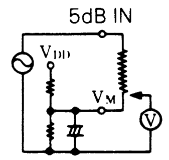
## 2. IC2 (X09-2620): LC7535

## Electronic VR Balance IC

### 2-1 Equivalent Circuit Block Diagram



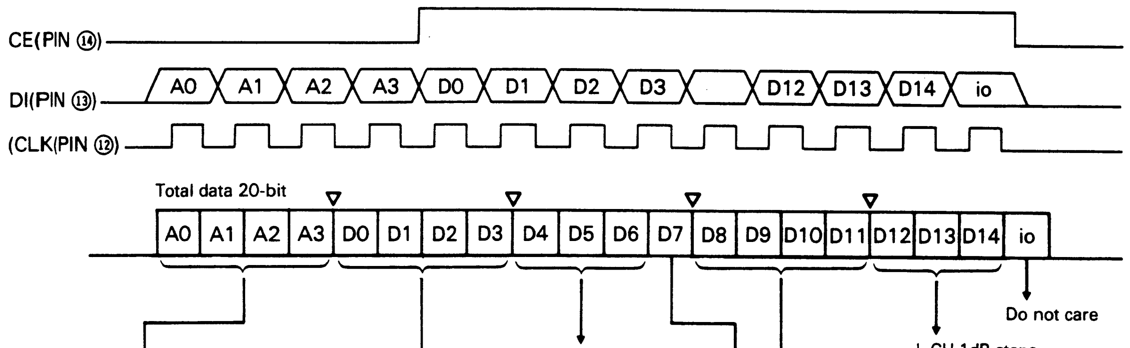
### 2-2 Explanation of Pins

| Pin No. | Symbol | I/O | Function | Remark |
|---|---|---|---|---|
| 1 | L5dB IN | I | 5 dB step attenuator input terminal. Should be driven by a low impedance. | Total resistance 75 k-ohms |
| 22 | R5dB IN | | | |
| 2 | LCT1 | | Loudness control terminals. The high-frequency compensation capacitors are connected between CT1 and 5dBIN, and the low-frequency compensation capacitors are connected between CT2 and VM. | |
| 3 | LCT2 | | | |
| 21 | RCT1 | | | |
| 20 | RCT2 | | | |
| 4 | L5dB OUT | O | 5 dB step attenuator output terminals. A load of about 1 M-ohm is required for each terminal. | |
| 19 | R5dB OUT | | | |
| 5 | L1dB IN | I | 1 dB step attenuator input terminals. Should be driven by a low impedance. | Total resistance 20 k-ohms. |
| 18 | R1dB IN | | | |
| 6 | L1dB OUT | O | 1 dB step attenuator output terminals.<br>A load of 47 k-ohms to 1 M-ohm is required. | |
| 17 | R1dB OUT | | | |
| 7 | L VM | | VR common terminals. The impedance of the pattern connected to each terminal should be as low as possible. As L VM, R VM and Vss are not connected internally, they shall be connected externally considering the specifications. Specially, in the case of a single power supply, each capacitor between VM and Vss becomes the residual resistance component when the VR setting is minimized, so it is required that special care be taken for the capacitor's capacitance. |  |
| 16 | R VM | | | |
| 9 | S | | Select terminal for the address code in the data format. When this terminal is connected to $V_{DD}$, data is accepted if the address code is "9". When it is connected to $V_{CC}$, data is accepted if the address code is "8". | |

### 2-3 Explanation of Pins

| Pin No. | Symbol | I/O | Function | Remark |
|---|---|---|---|---|
| 12 | CLK | I | Input terminals for controlling LC7535 using serial data.<br>The input amplitude is 0 to 5 V.<br>When any (CLK, DI or CE) of the control microprocessor signals is "H" in the backup status ($V_{DD} = V_{CC} = 0V$), insert a resistor of 2 k-ohms or more in series in the middle of the signal line. | |
| 13 | DI | | | |
| 14 | CE | | | |
| 8 | $V_{EE}$ | | Power supply connection terminals. Take care so that $V_{DD}$ does not rise before $V_{CC}$ when power is turned ON. | |
| 10 | $V_{DD}$ | | | |
| 11 | $V_{SS}$ | | | |
| 15 | $V_{CC}$ | | | |

### 2-4 Data Format


CE(PIN ⑭)
DI(PIN ⑬)
A0
A1
A2
A3
D0
D1
D2
D3
D12
D13
D14
io
(CLK(PIN ⑫)
Total data 20-bit
A0 A1 A2 A3 D0 D1 D2 D3 D4 D5 D6 D7 D8 D9 D10 D11 D12 D13 D14 io
Do not care

L CH 1dB steps
(same as R CH)

R CH 1 dB steps

| | D4 | D5 | D6 |
|---|---|---|---|
| −∞ | 0 | 0 | 0 |
| Dummy *1 | 1 | 0 | 0 |
| −4dB | 0 | 1 | 0 |
| −3dB | 1 | 1 | 0 |
| −2dB | 0 | 0 | 1 |
| −1dB | 1 | 0 | 1 |
| 0dB | 0 | 1 | 1 |

Address code

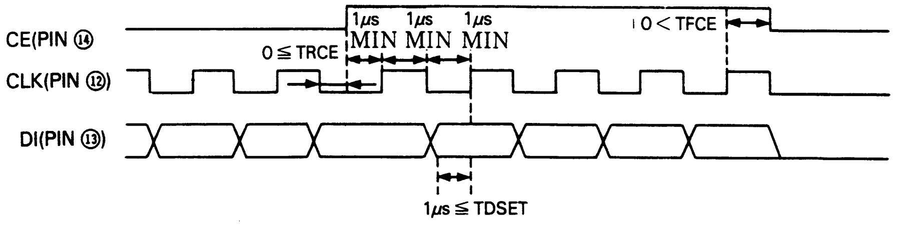
| S terminal | A0 | A1 | A2 | A3 |
|---|---|---|---|---|
| $V_{DD}$ | 1 | 0 | 0 | 1 |
| $V_{CC}$ | 0 | 0 | 0 | 1 |

L CH 5dB steps
(same as R CH)

Loudness
1:ON
0:OFF

R CH 5 dB steps

| | D0 | D1 | D2 | D3 |
|---|---|---|---|---|
| −75dB | 0 | 0 | C | 0 |
| −70dB | 1 | 0 | 0 | 0 |
| −65dB | 0 | 1 | 0 | 0 |
| −60dB | 1 | 1 | 0 | 0 |
| −55dB | 0 | 0 | 1 | 0 |
| −50dB | 1 | 0 | 1 | 0 |
| −45dB | 0 | 1 | 1 | 0 |
| −40dB | 1 | 1 | 1 | 0 |
| −35dB | 0 | 0 | 0 | 1 |
| −30dB | 1 | 0 | 0 | 1 |
| −25dB | 0 | 1 | 0 | 1 |
| −20dB | 1 | 1 | 0 | 1 |
| −15dB | 0 | 0 | 1 | 1 |
| −10dB | 1 | 0 | 1 | 1 |
| − 5dB | 0 | 1 | 1 | 1 |
| − 0dB | 1 | 1 | 1 | 1 |


CE(PIN ⑭
CLK(PIN ⑫)
DI(PIN ⑬)
0 ≦ TRCE
1μs MIN
1μs MIN
1μs MIN
10 < TFCE
1μs ≦ TDSET

## 3. Rear speaker power amplifier STK-4132/2 (X09-2620-00: IC3)

### 3-1 Equivalent circuit

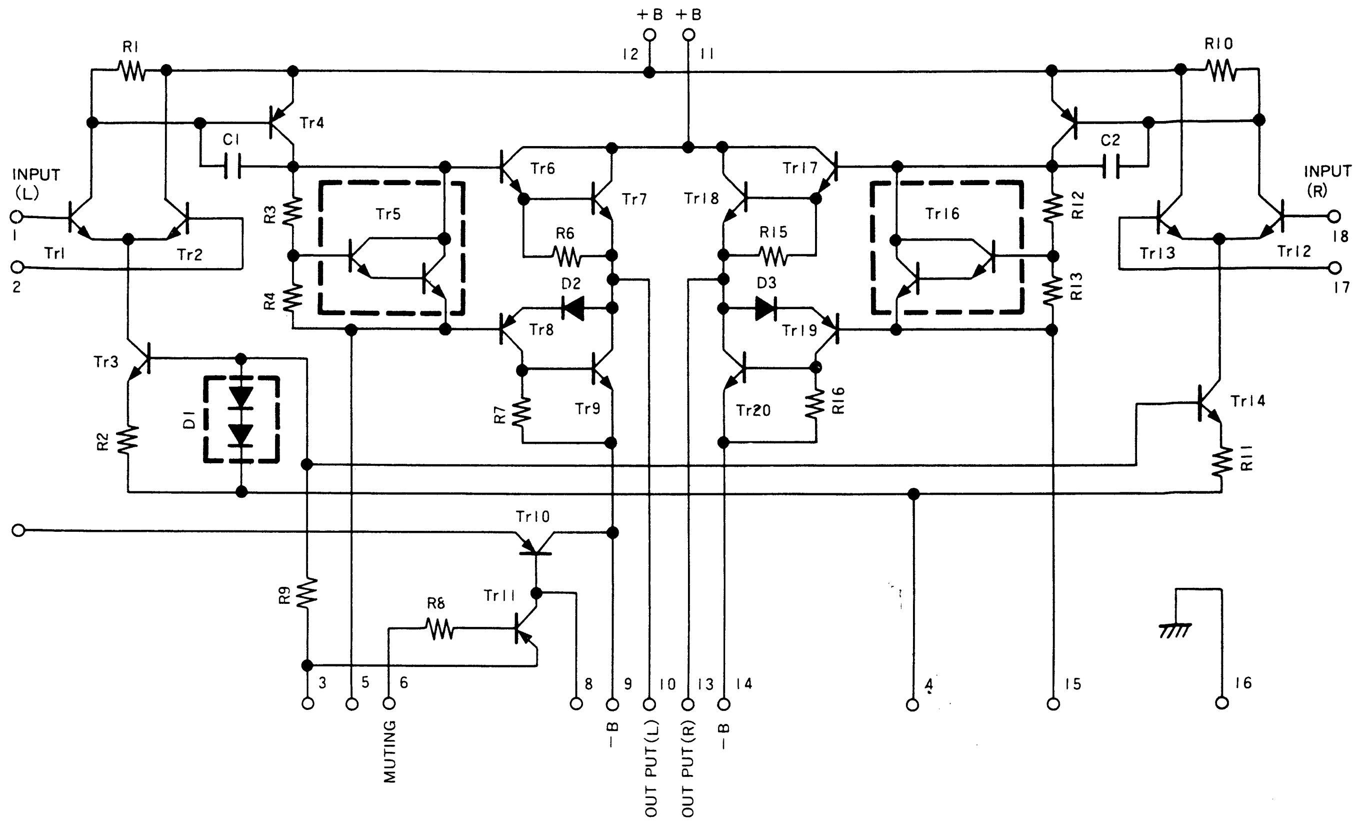

+B +B
12
11
R1
R10
Tr4
C1
C2
INPUT (L)
INPUT (R)
1
2
18
17
Tr1
Tr2
Tr3
R3
R4
Tr5
Tr6
Tr7
R6
D2
Tr8
Tr9
R7
Tr17
Tr18
R15
D3
Tr19
Tr20
R16
Tr16
R12
R13
Tr13
Tr12
Tr14
R11
R2
D1
Tr10
Tr11
R9
R8
3
5
6
8
9
10
13
14
4
15
16
MUTING
−B
OUT PUT (L)
OUT PUT (R)
−B

Figure 3-1

## 4. Motor driver BA6229 (X09-2620-00: IC5, IC6)

### 4-1 Block diagram

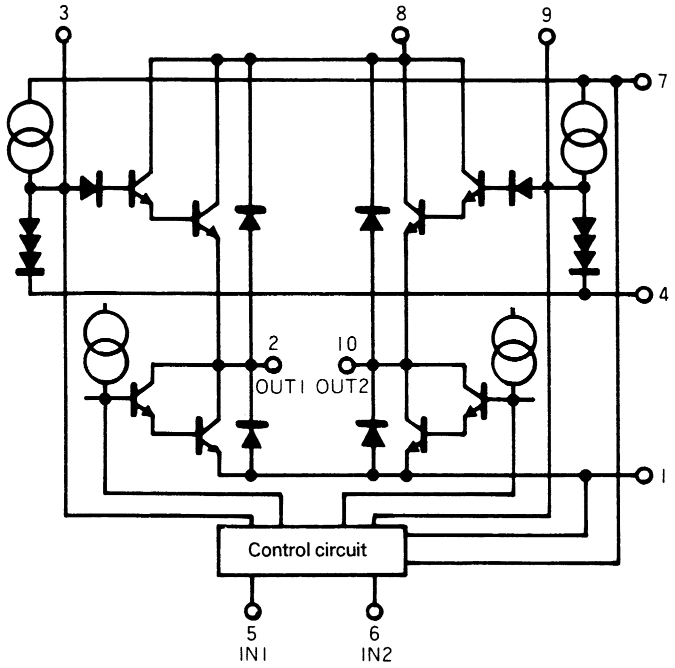

3
8
9
7
4
2
10
OUT1 OUT2
1
Control circuit
5
IN1
6
IN2

Figure 4-1

### 4-2 Truth table

| Input | | Output | | Remarks |
|---|---|---|---|---|
| TN1 | TN2 | OUT1 | OUT2 | |
| L | L | OPEN | OPEN | Stop |
| L | L | H | L | Normal rotation |
| H | H | L | H | Reverse rotation |
| H | H | L | L | Brake |

Table 4-1

## 5. 4-channel multiplexer TC74HC153P (X32-1230-00: IC2)

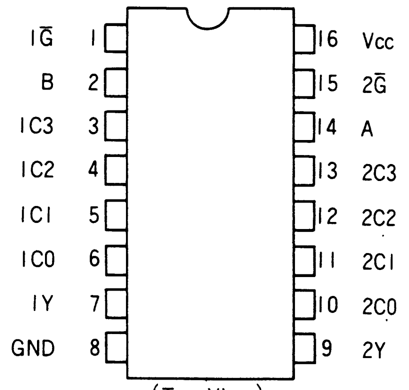
### 5-1 Truth table

X : Don't care

| SELECT INPUTS | | DATA INPUTS | | | | STROBE | OUTPUT Y |
|---|---|---|---|---|---|---|---|
| B | A | C0 | C1 | C2 | C3 | G̅ | HC153 |
| X | X | X | X | X | X | H | L |
| L | L | L | X | X | X | L | L |
| L | L | H | X | X | X | L | H |
| L | H | X | L | X | X | L | L |
| L | H | X | H | X | X | L | H |
| H | L | X | X | L | X | L | L |
| H | L | X | X | H | X | L | H |
| H | H | X | X | X | L | L | L |
| H | H | X | X | X | H | L | H |

Table 5-1

### 5-2 Pin layout

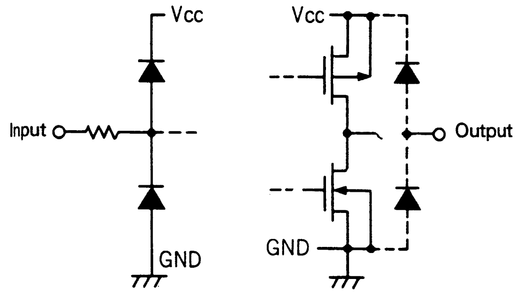


1G̅ 1
B 2
1C3 3
1C2 4
1C1 5
1C0 6
1Y 7
GND 8
16 Vcc
15 2G̅
14 A
13 2C3
12 2C2
11 2C1
10 2C0
9 2Y

(Top View)

Figure 5-1

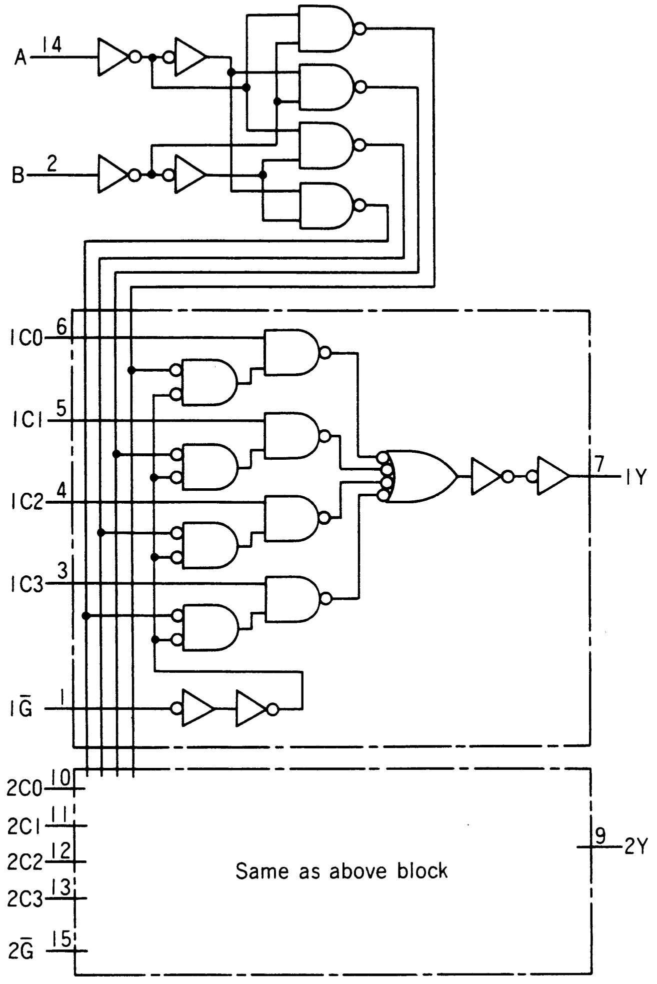
### 5-3 Input protection circuit/output equivalent circuit



Vcc
Input
GND
Vcc
Output
GND

Figure 5-2

### 5-4 Logic diagram

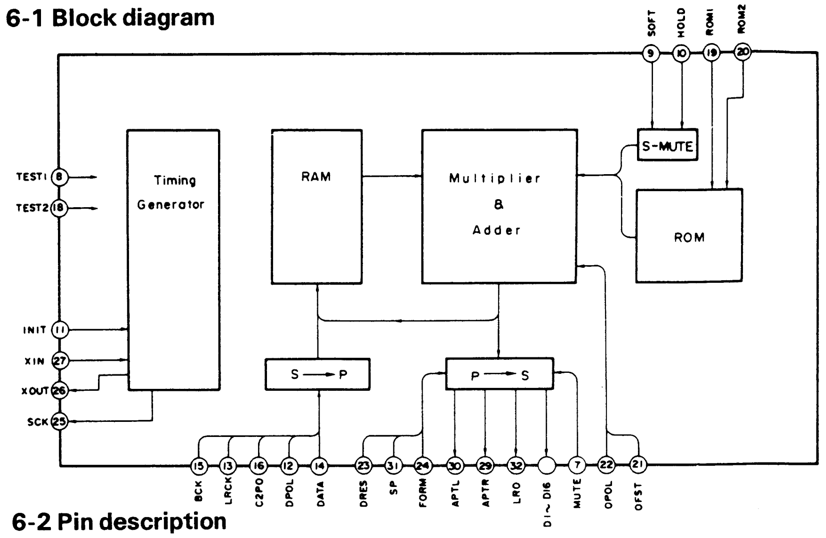


A 14
B 2
1C0 6
1C1 5
1C2 4
1C3 3
1G̅ 1
7 1Y
2C0 10
2C1 11
2C2 12
2C3 13
2G̅ 15
9 2Y
Same as above block

Figure 5-3

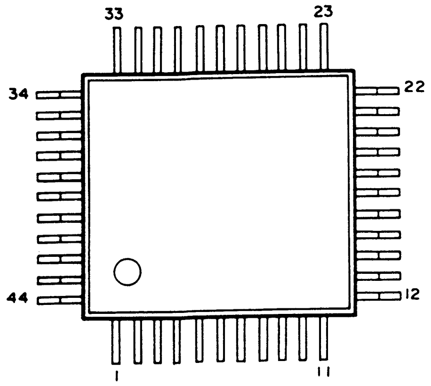
## 6. IC3: CXD1088Q (X32-1230-00) Digital filter

### 6-1 Block diagram



SOFT 9
HOLD 10
ROM1 19
ROM2 20
TEST1 8
TEST2 18
INIT 11
XIN 27
XOUT 26
SCK 25
Timing Generator
RAM
Multiplier & Adder
S-MUTE
ROM
S → P
P → S
BCK 15
LRCK 13
C2PO 16
DPOL 12
DATA 14
DRES 23
SP 31
FORM 24
APTL 30
APTR 29
LRO 32
D1~D16
MUTE 7
OPOL 22
OFST 21

Pin arrangement (Top view)

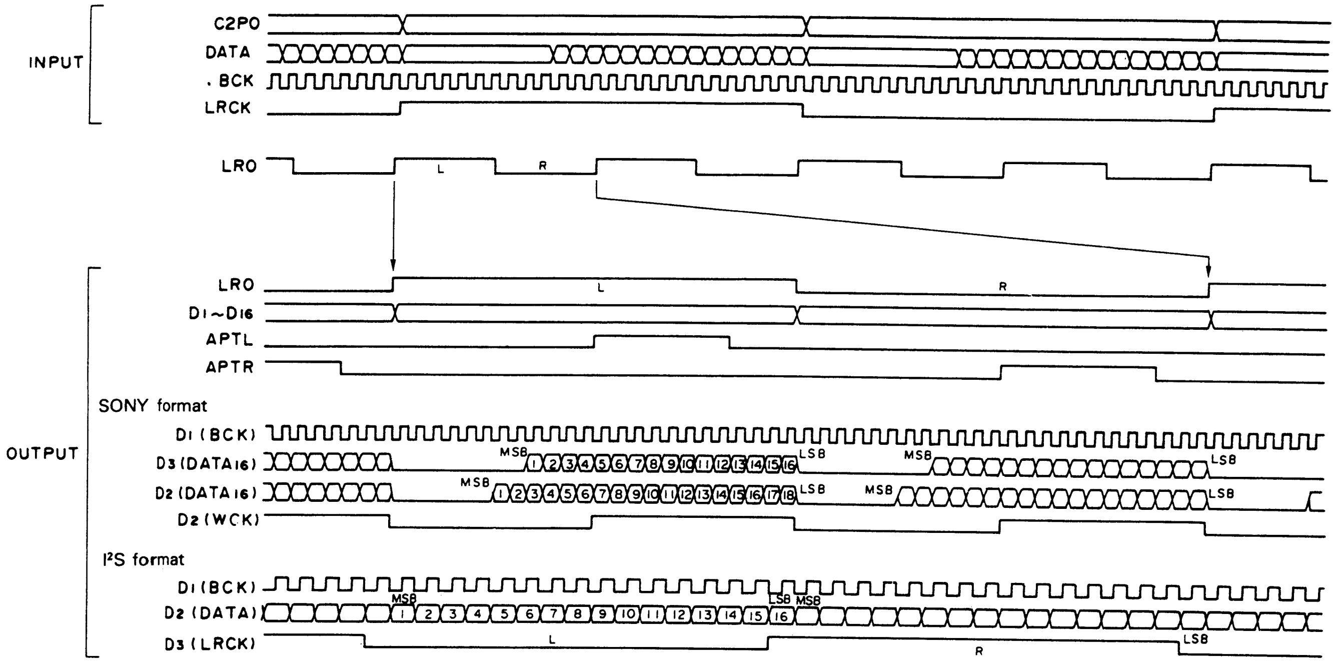


33
23
34
22
44
12
1
11

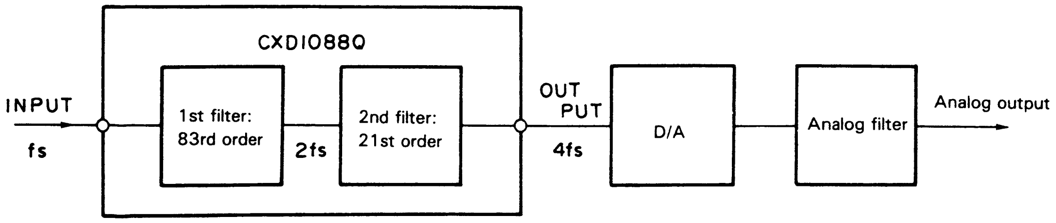
### 6-2 Pin description

| Pin No. | Pin Symbol | I/O | Pin Function |
|---|---|---|---|
| 1~5 | $D_{12}$~$D_{16}$ | O | $D_{12}$~$D_{16}$ output in parallel mode. Fixed at low level in serial mode. |
| 6 | Vss | — | Negative power supply (0 V) |
| 7 | MUTE | I | Sets output to "0" or offset value. Active high. |
| 8 | TEST1 | I | Test pin. Fixed at low level in normal use. |
| 9 | SOFT | I | Soft muting ON/OFF. Mute ON at high. |
| 10 | HOLD | I | Stops muting operation. Stops at high. |
| 11 | INIT | I | Power ON reset input. Active low. |
| 12 | DPOL | I | Inverts polarity of input data |
| 13 | LRCK | I | LRCK input |
| 14 | DATA | I | 16-bit× 2 serial mode data input. 2's complement |
| 15 | BCK | I | BCK input |
| 16 | C2PO | I | Error flag input |
| 17 | $V_{DD}$ | — | Positive power supply (+5 V) |
| 18 | TEST2 | I | Test pin. Fixed at low level in normal use. |
| 19 | ROM1 | I | ROM select for 83rd order |
| 20 | ROM2 | I | ROM select for 21st order |
| 21 | OFST | I | Adds offset to output. Active high. |
| 22 | OPOL | I | Specifies polarity of offset value. High (+1%), Low (−1%) |
| 23 | DRES | I | Data word length in SONY format serial mode output High: 18 bits, Low: 16 bits |
| 24 | FORM | I | Specifies output format. High: $I^2S$ Low: SONY |
| 25 | SCK | O | System clock output for external IC (384 fs) |
| 26 | XOUT | O | Crystal oscillator output (384 fs) |
| 27 | XIN | I | Crystal oscillator input (384 fs) |
| 28 | Vss | — | Negative power supply (0 V) |
| 29 | APTR | O | Aperture clock for R-channel |
| 30 | APTL | O | Aperture clock for L-channel |
| 31 | SP | I | Serial/parallel mode output select. High: parallel mode, Low: serial mode |
| 32 | LRO | O | LRCK output (4 fs) |
| 33 | $D_1$ | O | $D_1$ (MSB) output in parallel mode. BCK output in serial mode. (4 fs) |
| 34 | $D_2$ | O | $D_2$ output in parallel mode. DATA output in serial mode. (4 fs) |
| 35 | $D_3$ | O | $D_3$ output in parallel mode. Serial: LRCK output ($I^2S$ mode), WCK output (SONY mode) |
| 36~38 | $D_4$~$D_6$ | O | $D_4$~$D_6$ output in parallel mode. Fixed at low level in serial mode. |
| 39 | $V_{DD}$ | — | Positive power supply (+5 V) |
| 40~44 | $D_7$~$D_{11}$ | O | $D_7$~$D_{11}$ output in parallel mode. Fixed at low level in serial mode. |

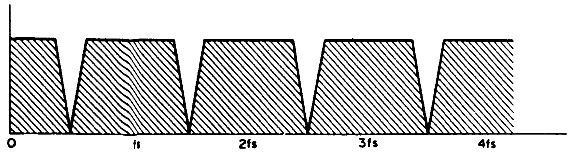
### 6-3 Input/output timing chart


INPUT
C2PO
DATA
BCK
LRCK
LRO
L
R
OUTPUT
LRO
D1~D16
APTL
APTR
SONY format
D1 (BCK)
D3 (DATA16)
D2 (DATA16)
D2 (WCK)
I²S format
D1 (BCK)
D2 (DATA)
D3 (LRCK)
MSB
LSB

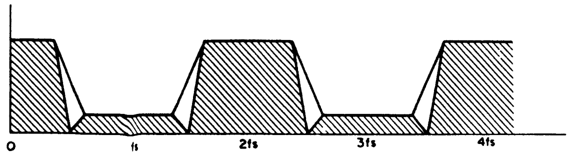
### 6-4 Filter characteristics


CXD1088Q
INPUT
fs
1st filter:
83rd order
2fs
2nd filter:
21st order
OUT PUT
4fs
D/A
Analog filter
Analog output

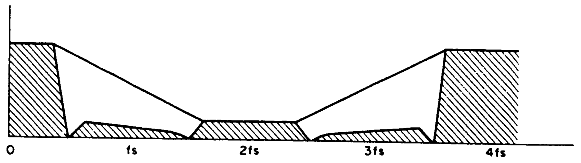
**INPUT spectrum**



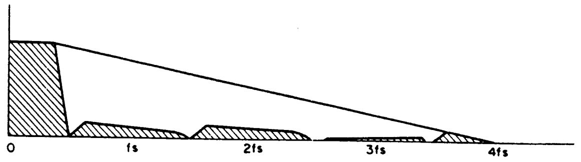
**1st filter characteristics**



**2nd filter characteristics**



**Analog filter characteristics**



## 7. D/A converter TDA1541A (X32-1230-00: IC4)

### 7-1 Pin layout

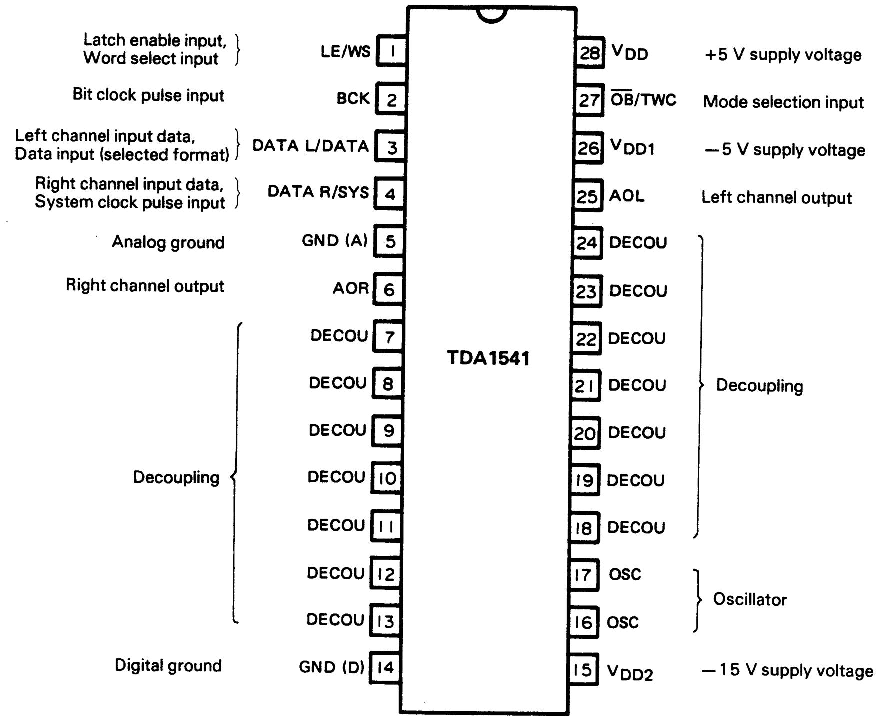

TDA1541
Latch enable input, Word select input
LE/WS 1
Bit clock pulse input
BCK 2
Left channel input data, Data input (selected format)
DATA L/DATA 3
Right channel input data, System clock pulse input
DATA R/SYS 4
Analog ground
GND (A) 5
Right channel output
AOR 6
DECOU 7
DECOU 8
DECOU 9
DECOU 10
DECOU 11
DECOU 12
DECOU 13
Decoupling
Digital ground
GND (D) 14
28 VDD
+5 V supply voltage
27 OB/TWC
Mode selection input
26 VDD1
−5 V supply voltage
25 AOL
Left channel output
24 DECOU
23 DECOU
22 DECOU
21 DECOU
20 DECOU
19 DECOU
18 DECOU
Decoupling
17 OSC
16 OSC
Oscillator
15 VDD2
−15 V supply voltage

Figure 7-1

### 7-2 Block diagram

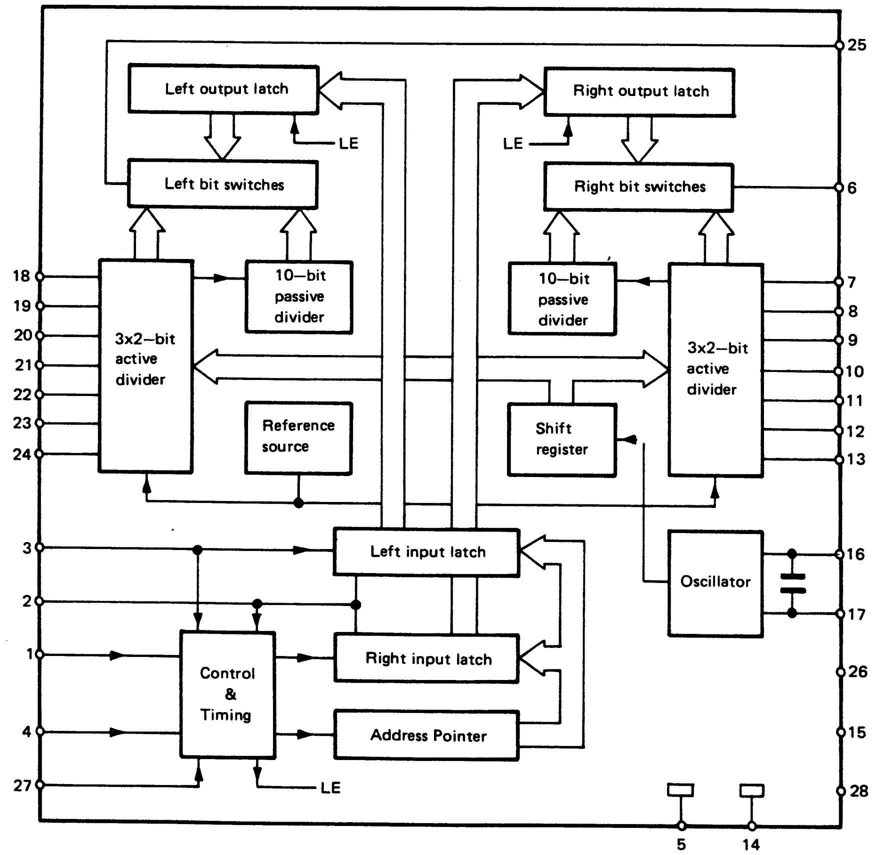

Left output latch
Right output latch
LE
LE
Left bit switches
Right bit switches
10-bit passive divider
10-bit passive divider
3x2-bit active divider
3x2-bit active divider
Reference source
Shift register
Oscillator
Left input latch
Right input latch
Control & Timing
Address Pointer
LE
25
6
7
8
9
10
11
12
13
16
17
26
15
28
18
19
20
21
22
23
24
3
2
1
4
27
5
14

Figure 7-2

# CIRCUIT DESCRIPTION

## 8. Microprocessor CXP5034-068S (X32-1230-00: IC6)

### 8-1 Pin layout

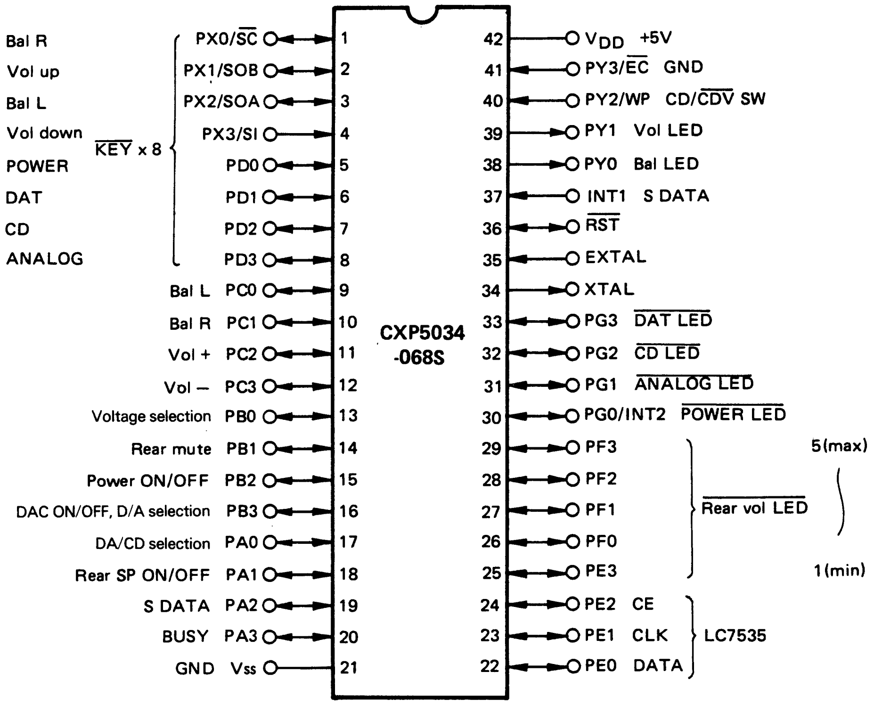

Bal R
Vol up
Bal L
Vol down
POWER
DAT
CD
ANALOG
KEY x 8
PX0/SC 1
PX1/SOB 2
PX2/SOA 3
PX3/SI 4
PD0 5
PD1 6
PD2 7
PD3 8
Bal L PC0 9
Bal R PC1 10
Vol + PC2 11
Vol – PC3 12
Voltage selection PB0 13
Rear mute PB1 14
Power ON/OFF PB2 15
DAC ON/OFF, D/A selection PB3 16
DA/CD selection PA0 17
Rear SP ON/OFF PA1 18
S DATA PA2 19
BUSY PA3 20
GND Vss 21
CXP5034 -068S
42 VDD +5V
41 PY3/EC GND
40 PY2/WP CD/CDV SW
39 PY1 Vol LED
38 PY0 Bal LED
37 INT1 S DATA
36 RST
35 EXTAL
34 XTAL
33 PG3 DAT LED
32 PG2 CD LED
31 PG1 ANALOG LED
30 PG0/INT2 POWER LED
29 PF3
28 PF2
27 PF1
26 PF0
25 PE3
Rear vol LED
5(max)
1(min)
24 PE2 CE
23 PE1 CLK
22 PE0 DATA
LC7535

Figure 8-1

### 8-2 Pin function

| Pin No. | Symbol | I/O | Pin Name | Function |
|---|---|---|---|---|
| 1 | PX0/SC | I | REAR BAL. R | Rear speaker balance R-ch key |
| 2 | PX1/SOB | I | REAR VOL. UP | Rear speaker volume up key |
| 3 | PX2/SOA | I | REAR BAL. L | Rear speaker balance L-ch key |
| 4 | PX3/SI | I | REAR VOL. DOWN | Rear speaker volume down key |
| 5 | PD0 | I | POWER | System power key |
| 6 | PD1 | I | DAT | DAT system power key (Input selector) |
| 7 | PD2 | I | CD | CD system power key (Input selector) |
| 8 | PD3 | I | ANALOG | Analog system power key (Input selector) |
| 9 | PC0 | O | FRONT BAL. L | Balance motor L-ch key (counterclockwise rotation) |
| 10 | PC1 | O | FRONT BAL. R | Balance motor R-ch key (clockwise rotation) |
| 11 | PC2 | O | MASTER VOL. UP | Master volume up key |
| 12 | PC3 | O | MASTER VOL. DOWN | Master volume down key |
| 13 | PB0 | O | VM selection | Master volume voltage selection (with FADER) |
| 14 | PB1 | O | MUTE | Rear speaker volume. "O" with Min. |
| 15 | PB2 | O | POWER | Power ON/OFF power control |
| 16 | PB3 | O | DAC ON/OFF | "O" with selector at "digital" |
| 17 | PA0 | O | DAT/CD | Digital selector. DAT/CD selection |
| 18 | PA1 | O | REAR SP | Rear speaker ON/OFF ("O" with SURROUND OFF) |
| 19 | PA2 | O | SDATA | Serial data bus |
| 20 | PA3 | O | BUSY | Serial control bus |
| 21 | Vss | O | GND | GND. |
| 22 | PE0 | O | DATA | Electronic VR LC7535 control |
| 23 | PE1 | O | CLK | Electronic VR LC7536 control |

Table 8-1

| Pin No. | Symbol | I/O | Pin Name | Function |
|---|---|---|---|---|
| 24 | PE2 | O | CE | Electronic VR LC7535 control |
| 25 | PE3 | O | REAR LEVEL | Rear speaker volume balance control. 3-state display |
| 26～29 | PF0～PF3 | O | REAR LEVEL | Rear speaker volume balance control. Nch open drain |
| 30 | PG0 | O | POWER | Power LED drive |
| 31 | PG1 | O | ANALOG | Analog LED drive |
| 32 | PG2 | O | CD | CD direct LED drive |
| 33 | PG3 | O | DAT | DAT direct LED drive |
| 34 | XTAL | O | CL1 | 4.19 MHz system clock pulse |
| 35 | EXTAL | I | CL2 | 4.19 MHz system clock pulse |
| 36 | RST | I | RST | Active "LOW" input |
| 37 | INT1 | I | SDATA | Serial data bus input check |
| 38 | PY0 | O | BAR. LED | Balance marker LED |
| 39 | PY1 | O | VOL. LED | Volume marker LED |
| 40 | PY2/WP | I | CD/CDV | CD/CDV rear selection switch |
| 41 | PY3/EC | I | NC | GND. |
| 42 | VDD | I | +5 V | Supply voltage |

**Tabel 8-1**

## 9. Operation of digital I/O unit (X88-1010-00)

A PLL loop of IC1-IC3-IC2 is formed in order to extract the bit sync signal from the data signal input to the pin 43 of IC1. In addition, the data demodulated in IC1 is output as flag. Refer to Table 9-1 below.

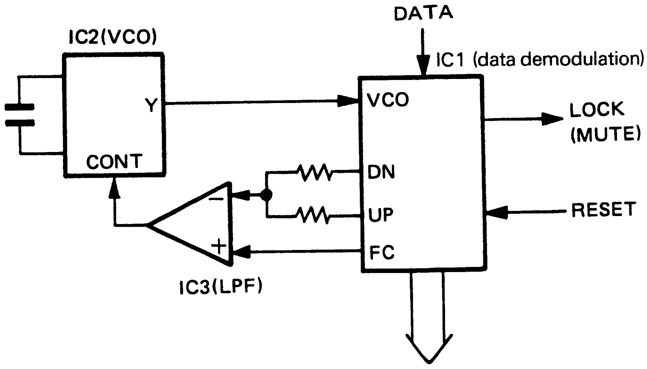


**Figure 9-1**

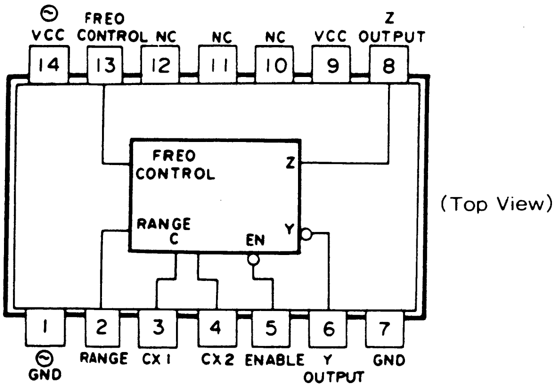
| CN1 | Description | | CN2 | Description |
|---|---|---|---|---|
| 1 | GND. | | 1 | MUTE/LOCK indicator OFF at "LOW" |
| 2 | DATA IN. | | 2 | WCK |
| 3 | SF32 | Sampling frequency display is selected according to the mode given by bit C (Table 11-3). (Active "HIGH") | 3 | DATA OUT |
| 4 | FS44 | | 4 | Emphasis |
| 5 | FS48 | | 5 | LRCK |
| 6 | CT0: GENRAL | One is selected according to the mode given by bit C. One of CT0-CT4 becomes "HIGH" correspondingly. | 6 | BCK |
| 7 | CT1: CD | | 7 | 384 × FS: Digital filter clock pulse |
| 8 | CT2: PCM | | 8 | Reset at "LOW". |
| 9 | CT3: DAT | | 9 | VDD |
| 10 | CT4: BS | | 10 | GND |
| 11 | PLL ON/OFF designation. "ON" at "LOW". | | 11 | |

**Tabel 9-1:**

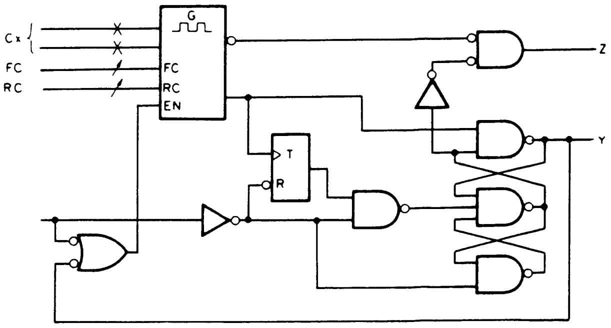
# CIRCUIT DESCRIPTION

## 10. VCO SN74LS624N (X88-1010-00: IC2):

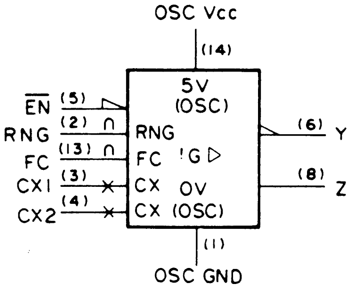
### 10-1 Pin connection diagram


VCC 14
FREQ CONTROL 13
NC 12
NC 11
NC 10
VCC 9
Z OUTPUT 8
FREQ CONTROL
Z
RANGE C
EN
Y
1 GND
2 RANGE
3 CX1
4 CX2
5 ENABLE
6 Y OUTPUT
7 GND
(Top View)

### 10-2 Logic circuit diagram

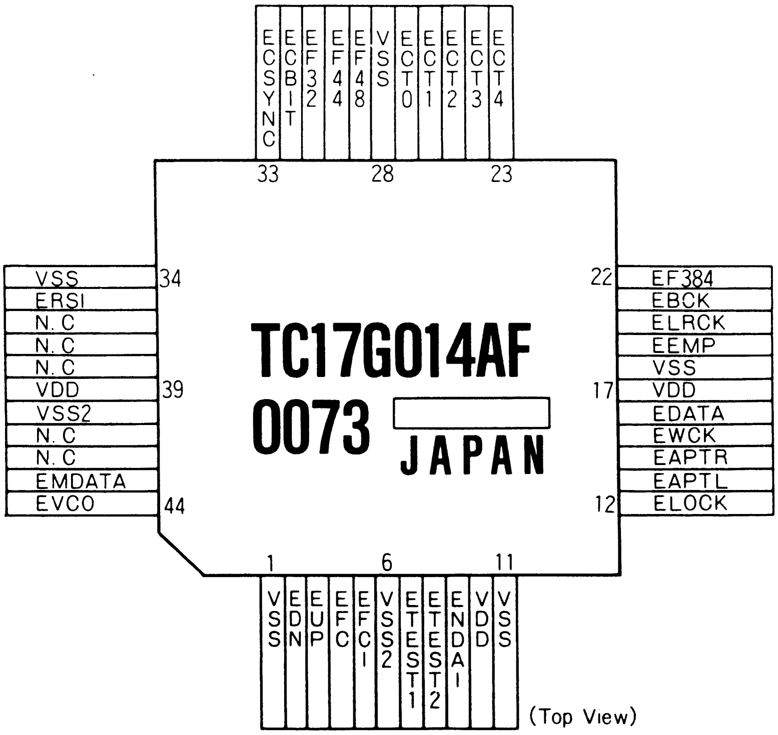

Cx
FC
RC
G
FC
RC
EN
T
R
Z
Y

### 10-3 Logic symbol diagram


OSC Vcc
(14)
5V (OSC)
EN (5)
RNG (2)
FC (13)
CX1 (3)
CX2 (4)
RNG
FC G
CX 0V
CX (OSC)
(6) Y
(8) Z
(1)
OSC GND

## 11. DIGITAL AUDIO DATA DEMODULATION TC17G014AF-0073 (X88-1010-00: IC1):

### 11-1 Pin connection diagram

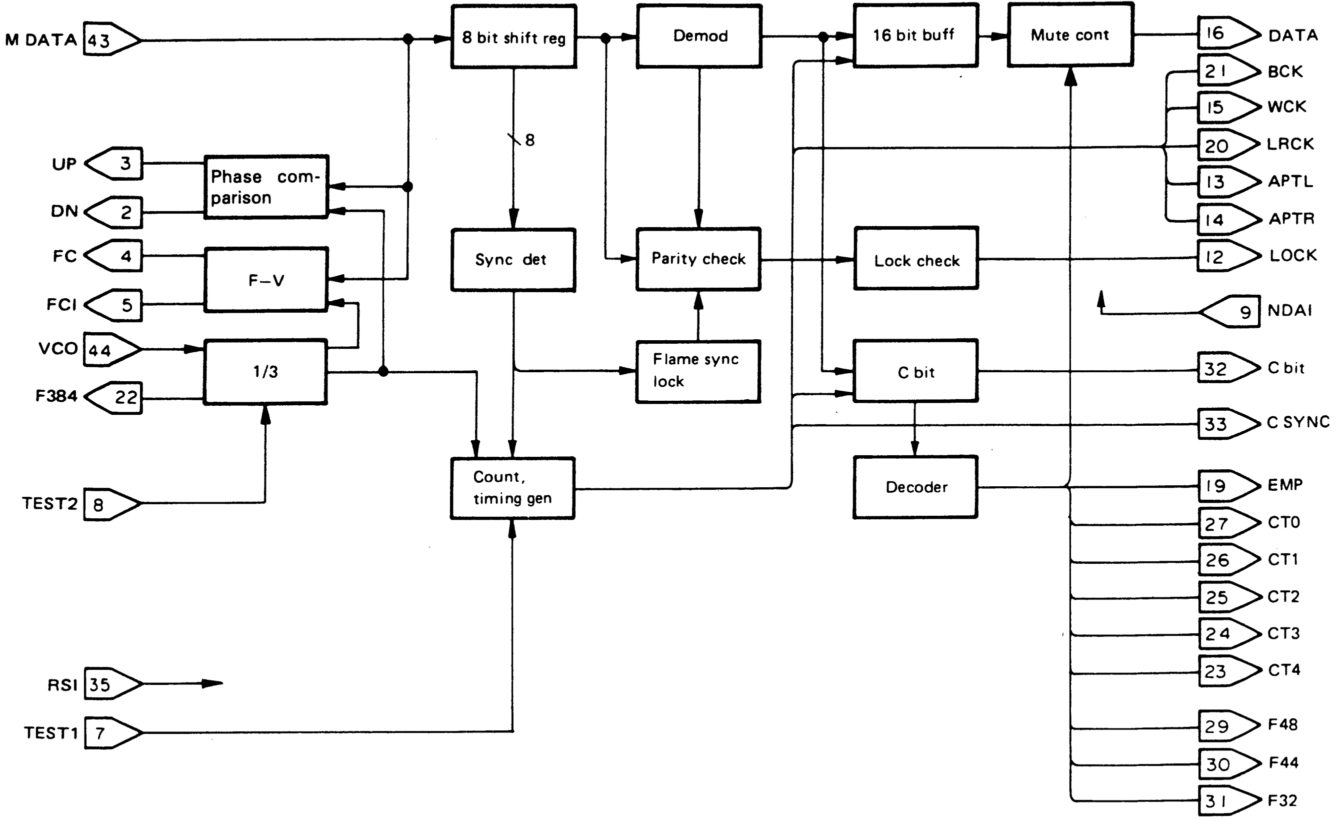

ECSYNC
ECBIT
EF32
EF44
EF48
VSS
ECT0
ECT1
ECT2
ECT3
ECT4
33
28
23
VSS 34
ERSI
N.C
N.C
N.C
VDD 39
VSS2
N.C
N.C
EMDATA
EVCO 44
22 EF384
EBCK
ELRCK
EEMP
VSS
17 VDD
EDATA
EWCK
EAPTR
EAPTL
12 ELOCK
TC17G014AF
0073
JAPAN
1
6
11
VSS
EDN
EUP
EFC
EFCI
VSS2
ETEST1
ETEST2
ENDAI
VDD
VSS
(Top View)

### 11-2 Pin functions

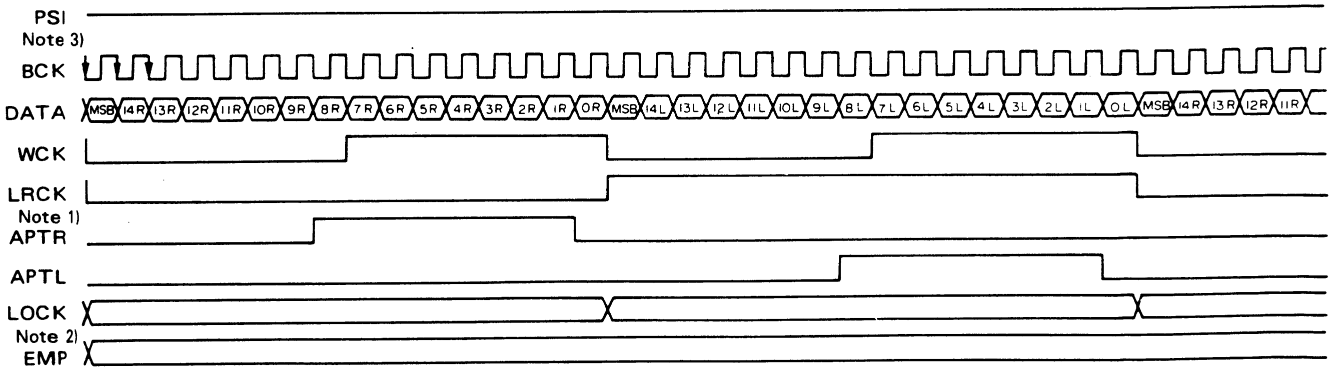
| Terminal No. | Symbol | I/O | Terminal name | Function |
|---|---|---|---|---|
| 1 | $V_{SS}$ | | $V_{SS}$ | GND |
| 2 | EDN | O | DN | Phase comparison output |
| 3 | EUP | O | UP | Phase comparison output |
| 4 | EFC | O | FC | Frequency comparison output. ''0'' output when resetting. |
| 5 | EFCI | O | FC1 | Inversion output of FC |
| 6 | $V_{SS}2$ | | $V_{SS}2$ | GND |
| 7 | ETEST1 | I | TEST1 | Test pin 1. ''0'' input in normal operation |
| 8 | ETEST2 | I | TEST2 | Test pin 2. ''0'' input in normal operation |
| 9 | ENDAI | I | NDAI | D/A data clock pulse line control pin. Normal output at NDAI = ''0''. High-impedance at NDAI = ''1''. |
| 10 | $V_{DD}$ | | $V_{DD}$ | +5 V |
| 11 | $V_{SS}$ | | $V_{SS}$ | GND |
| 12 | ELOCK | O | ELOCK | PLL lock output. Mute control. ''0'' output when resetting. LOCK = ''1'' output when preamble is detected. |
| 13 | EAPTL | O | APTL | D/A converter Lch deglitcher output. High-impedance at NDAI = ''1''. |
| 14 | EAPTR | O | APTR | D/A converter Rch deglitcher output. High-impedance at NDAI = ''1''. |
| 15 | EWCK | O | WCK | D/A data word clock pulse. 2fs deglitcher output. High-impedance at FDAI = ''1''. |
| 16 | EDATA | O | DATA | D/A serial data. 16-bit. Sent from MSB. High-impedance at NDAI = ''1''. At power ON, undefined data output until LOCK = ''1''. |
| 17 | $V_{DD}$ | | $V_{DD}$ | +5 V |
| 18 | $V_{SS}$ | | $V_{SS}$ | GND |
| 19 | EEMP | O | EMP | ''1'' when input C bits are of a type of 00×100 in order from LSB. (EMP = ''1'' at emphasis ON) |
| 20 | ELRCK | O | LRCK | D/A data Lch/Rch clock pulse. Fs. High-impedance at NDAI = ''1''. Lch data output at LRCK = ''1''. |
| 21 | EBCK | O | BCK | D/A data shift clock pulse. 32fs. High-impedance at NDAI = ''1''. D/A data sent at leading edge of BCK. |
| 22 | EF384 | O | F384 | VCO signal re-send signal. 384fs when locked. |
| 23 | ECT4 | O | CT4 | C bit category code decode output. ''1'' when category code is ''4'' or more. |
| 24 | ECT3 | O | CT3 | C bit category code decode output. ''1'' when category code is ''3'' (DAT). |
| 25 | ECT2 | O | CT2 | C bit category code decode output. ''1'' when category code is ''2'' (PCM Encoder/Decoder). |
| 26 | ECT1 | O | CT1 | C bit category code decode output. ''1'' when category code is ''1'' (CD). |
| 27 | ECT0 | O | CT0 | C bit category code decode output. ''1'' when category code is ''0'' (General Format). |
| 28 | $V_{SS}$ | | $V_{SS}$ | GND |
| 29 | EF48 | O | F48 | C bit decode output. F48 = ''1'' when bits 25 and 24 are of ''10''. |
| 30 | EF44 | O | F44 | C bit decode output. F44 = ''1'' when bits 25 and 24 are of ''00''. |
| 31 | EF32 | O | F32 | C bit decode output. F32 = ''1'' when bits 25 and 24 are of ''11''. |
| 32 | ECBIT | O | CBIT | Input C bits is output as it is. |
| 33 | ECSYNC | O | CSYNC | ''1'' when input C bit is ''0''. |
| 34 | $V_{SS}$ | | $V_{SS}$ | GND |
| 35 | ERSI | I | RSI | Reset input. Reset at RSI = ''0''. |
| 36 ~ 38 | NC | | NC | Unconnected |
| 39 | $V_{DD}$ | | $V_{DD}$ | +5 V |
| 40 | $V_{SS}2$ | | $V_{SS}2$ | GND |
| 41 ~ 42 | NC | | NC | Unconnected |
| 43 | EMDATA | I | MDATA | Modulation data input pin |
| 44 | EVCO | I | VCO | VCO (384fs) input pin |

# CIRCUIT DESCRIPTION

## 11-3 Block diagram


M DATA 43
UP 3
DN 2
FC 4
FCI 5
VCO 44
F384 22
TEST2 8
RSI 35
TEST1 7
Phase comparison
F–V
1/3
8 bit shift reg
8
Sync det
Count, timing gen
Demod
Parity check
Flame sync lock
16 bit buff
Lock check
C bit
Decoder
Mute cont
16 DATA
21 BCK
15 WCK
20 LRCK
13 APTL
14 APTR
12 LOCK
9 NDAI
32 C bit
33 C SYNC
19 EMP
27 CT0
26 CT1
25 CT2
24 CT3
23 CT4
29 F48
30 F44
31 F32

## 11-4 D/A data timing chart


PSI
Note 3)
BCK
DATA
MSB 14R 13R 12R 11R 10R 9R 8R 7R 6R 5R 4R 3R 2R 1R 0R MSB 14L 13L 12L 11L 10L 9L 8L 7L 6L 5L 4L 3L 2L 1L 0L MSB 14R 13R 12R 11R
WCK
LRCK
Note 1)
APTR
APTL
LOCK
Note 2)
EMP

**Note 1:** When LRCK = "1", Lch data is output.

**Note 2:** In one of the following cases, LOCK becomes "0" (when DR is taken).

1) When preamble is not detected in input data
2) When parity error occurs in input data
3) When input data is digital (when C bits 0 ~ 5 = 01 × 000)

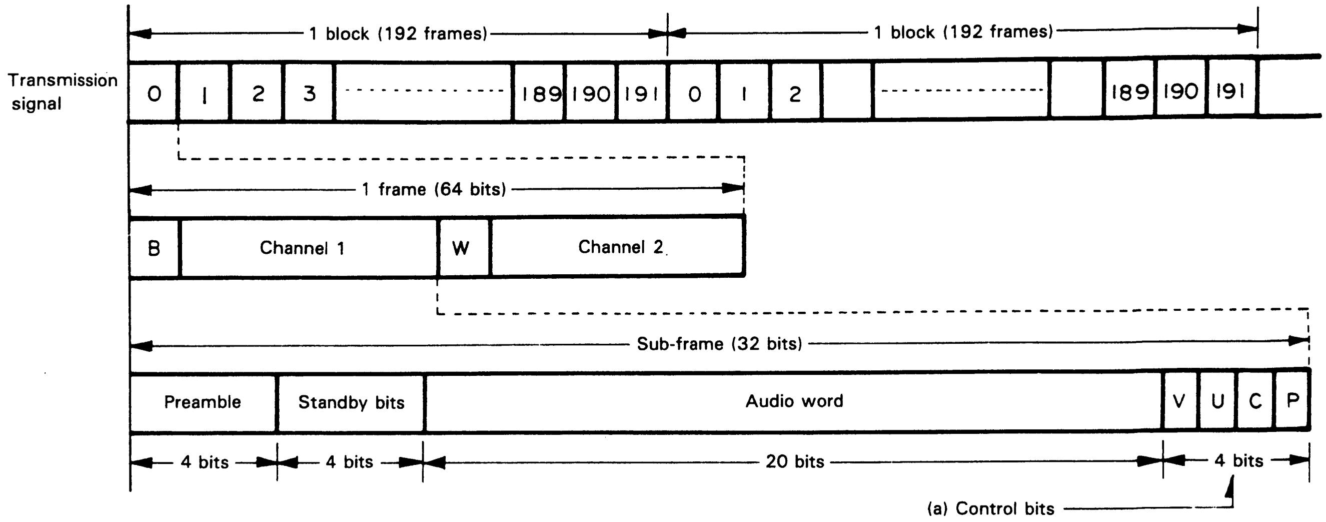
When LOCK = "1", input data is output to DATA (from MSB) at WCK with delay of 1 clock pulse.

When LOCK = "0", − 6 dB of predata (data 1-bit shifted for code extension) is output to DATA.

**Note 3:** When power is turned ON with RSI = "1" kept as it is, undefined data (noise) is output to DATA until LOCK = "1". When RSI becomes "1" from "0" (more than 50 nsec), undefined data is output to DATA until LOCK = "1".

# CIRCUIT DESCRIPTION

## 11-5 Digital audio interface format


1 block (192 frames)
1 block (192 frames)
Transmission signal
0
1
2
3
189
190
191
0
1
2
189
190
191
1 frame (64 bits)
B
Channel 1
W
Channel 2
Sub-frame (32 bits)
Preamble
Standby bits
Audio word
V
U
C
P
4 bits
4 bits
20 bits
4 bits
(a) Control bits

## 11-6 Details of control bits:

| | |
|---|---|
| **V** | 0: Audio data valid, 1: Audio data invalid |
| **U** | Unused |
| **C** | 1 block consists of total 192 bits, starting with preamble "B mode". |
| **P** | "0" or "1" is selected in such a way that the total of all bits excluding the preamble from the sub-frame is even-numbered. |

## 11-7 Contents represented by C bits (30 bits are used in practice out of 192 bits):

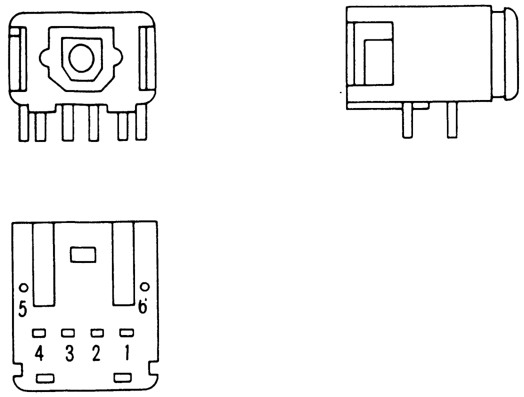
| | |
|---|---|
| **0 and 15** | Musical software specified, for broadcasting use or for personal use |
| **1~5** | Emphasis and digital copy, possible or impossible |
| **8~14** | Category code/general, CD, PCM, DAT, BS, etc. |
| **16~19** | SOURCE No. 1 to 15 |
| **20~23** | Channel No. A to O |
| **24~27** | Sampling frequency (32 MHz, 44.1 MHz, 48 kHz) |
| **28, 29** | Sampling frequency accuracy (level I to III) |

# CIRCUIT DESCRIPTION

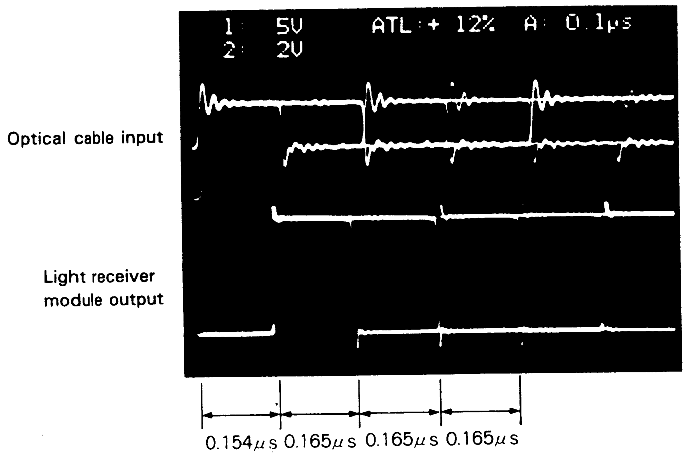
## 12. DIGITAL I/O UNIT (X88-1010-00)

### A2/3 (X32-1200-00): W02-0774-05

**Light receiving module:**
**Contour diagram**



**Output waveform of light receiving module**



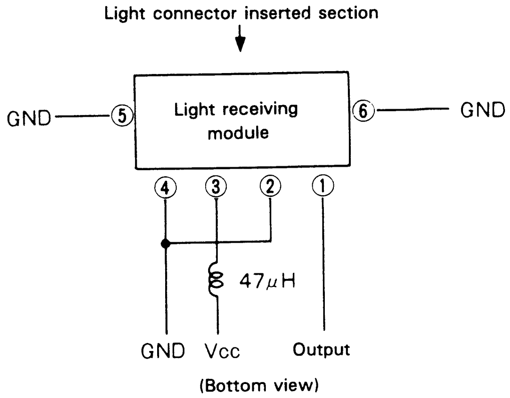
**Pin connections**

| Pin No. | Connection |
|---|---|
| 1 | Output |
| 2 | GND |
| 3 | Vcc |
| 4 | GND |
| 5 | Case |
| 6 | Case |

**Input sensitivity**

| Light input level | | |
|---|---|---|
| MIN | MAX | Unit |
| −24 | −14.5 | dBm |
| 3.9 | 35 | μW |
| (0 dBm = 1 mW) | | |

**Connection method**


Light connector inserted section
GND
⑤
Light receiving module
⑥
GND
④
③
②
①
47μH
GND
Vcc
Output
(Bottom view)

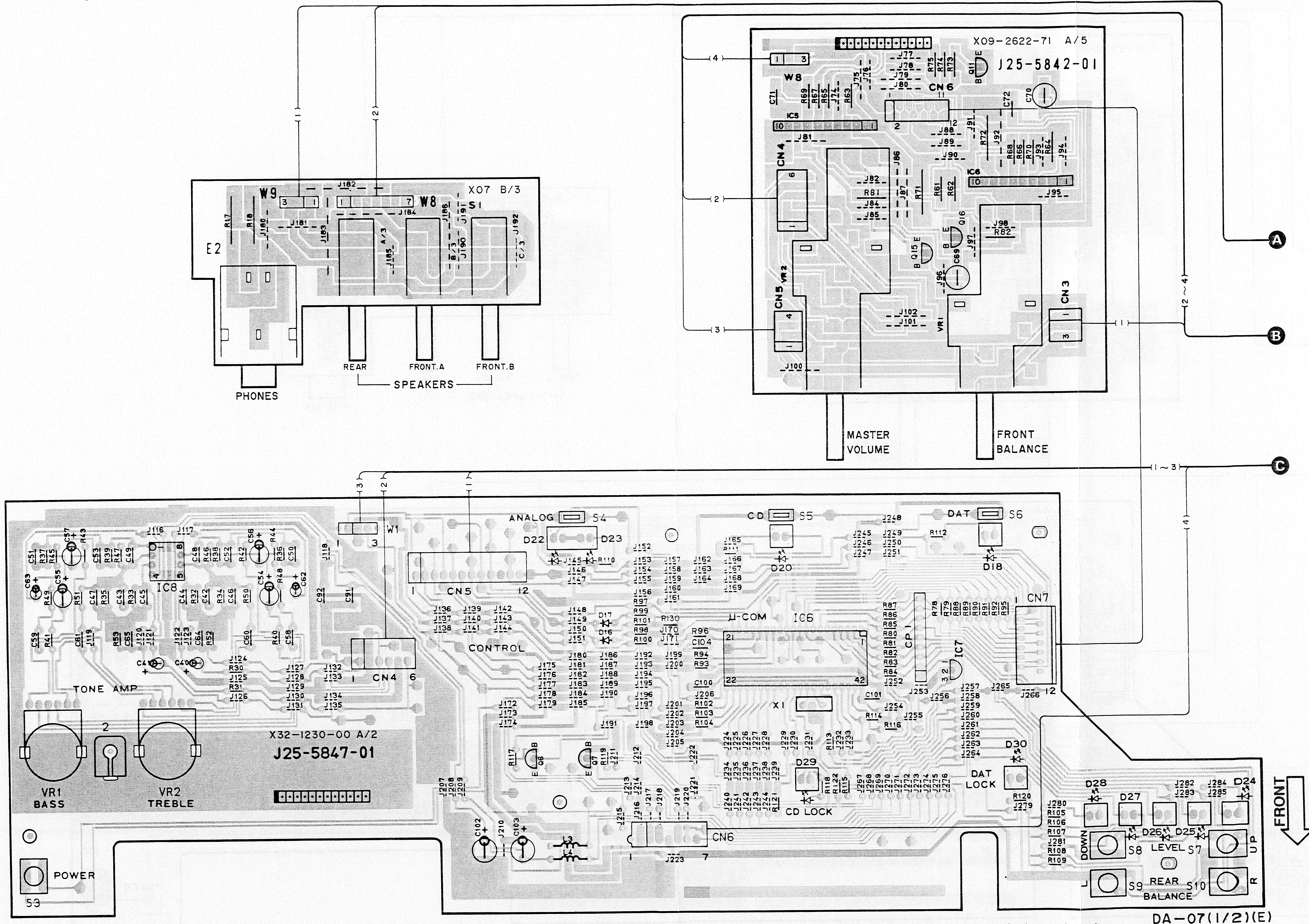
# ADJUSTMENT/REGLAGE/ABGLEICH

| No. | ITEM | INPUT SETTINGS | OUTPUT SETTINGS | AMPLIFIER SETTING | ALIGNMENT POINTS | ALIGN FOR | FIG. |
|---|---|---|---|---|---|---|---|
| 1 | IDLE CURRENT | – | Connect a DC voltmeter across CP1(L)<br>CP2(R)<br>(X09-) | VOLUME: 0 | VR1 (L)<br>VR2 (R)<br>(X89-) | 17mV | (a) |

| N° | ITEM | REGLAGE DE L'ENTREE | REGLAGE DE LA SORTIE | REGLAGE DE L'AMPLIFICATEUR | POINTS DE L'ALIGNMENT | ALIGNER POUR | FIG. |
|---|---|---|---|---|---|---|---|
| 1 | COURANT DE POLARISATION | – | Connecter un voltmétre de CC SUR CP1(G)<br>CP2(D)<br>(X09-) | VOLUME: 0 | VR1 (G)<br>VR2 (D)<br>(X89-) | 17mV | (a) |

| NR. | GEGENSTAND | EINGANGS-EINSTELLUNG | AUSANG-EINSTELLUNG | VORSTÄRKER-EINSTELLUNG | ABGLEICHE-PUNKTE | ABGLEICHEN FÜR | ABB. |
|---|---|---|---|---|---|---|---|
| 1 | LEERLAUFSTROM | – | Einen Gleichspannungsmesser über CP1 (L)<br>CP2 (R)<br>anschließen.<br>(X09-) | VOLUME: 0 | VR1 (L)<br>VR2 (R)<br>(X89-) | 17mV | (a) |

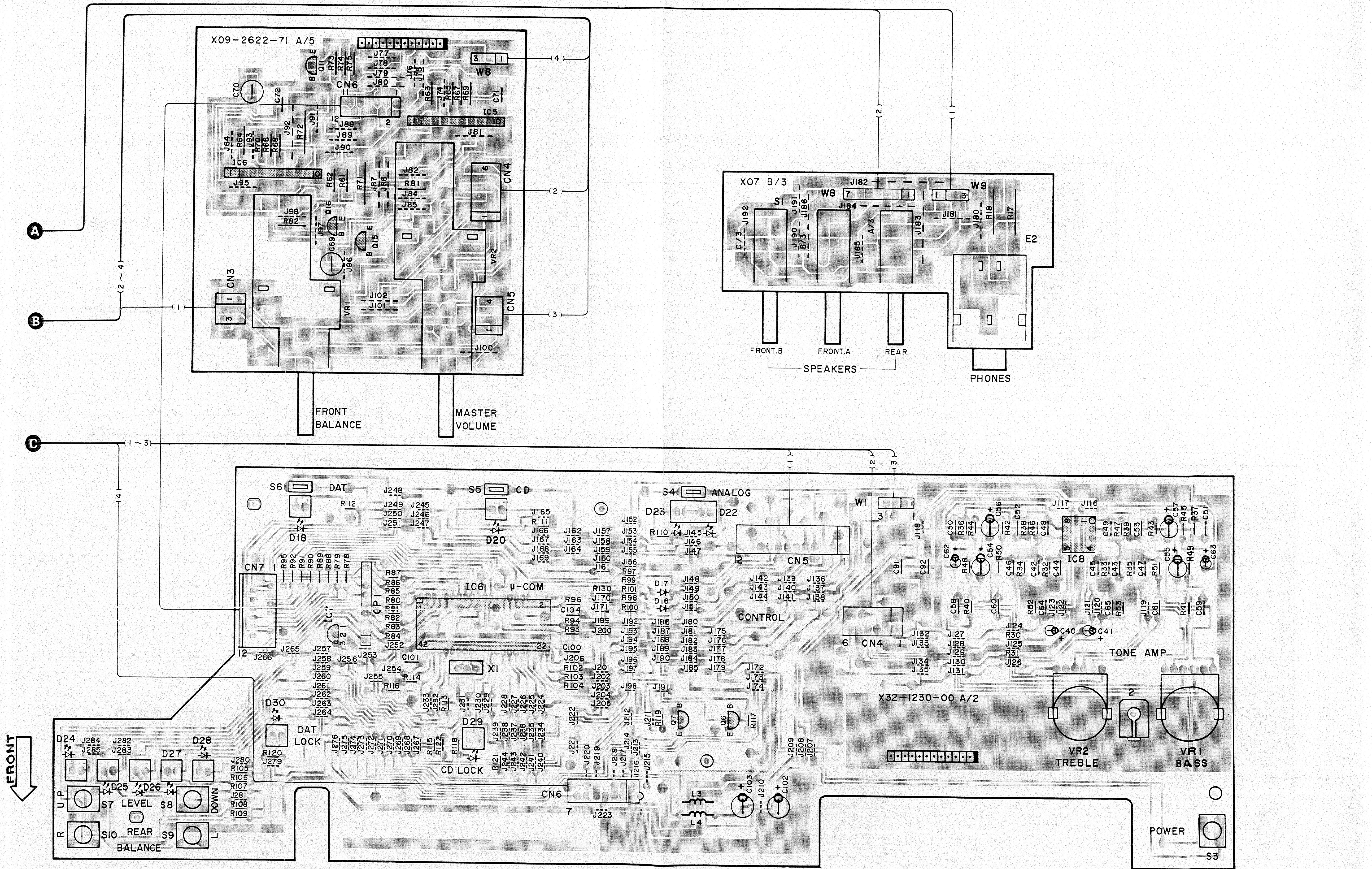
# PC BOARD (COMPONENT SIDE VIEW)


X07 B/3
W9
W8
S1
E2
PHONES
REAR
FRONT.A
FRONT.B
SPEAKERS
X09-2622-71 A/5
J25-5842-01
IC5
IC6
CN3
CN4
CN5
CN6
VR1
VR2
MASTER VOLUME
FRONT BALANCE
A
B
C
ANALOG
S4
D22
D23
CD
S5
D20
DAT
S6
D18
IC8
CN5
CONTROL
CN4
W1
TONE AMP
μ-COM
IC6
IC7
CN7
X1
CP1
X32-1230-00 A/2
J25-5847-01
VR1 BASS
VR2 TREBLE
POWER
S3
CN6
D29
CD LOCK
D30
DAT LOCK
D28
D27
D26
D25
D24
DOWN
S8
LEVEL
S7
UP
L
S9
REAR BALANCE
S10
R
FRONT

Refer to the schematic diagram for the values of resistors and capacitors.

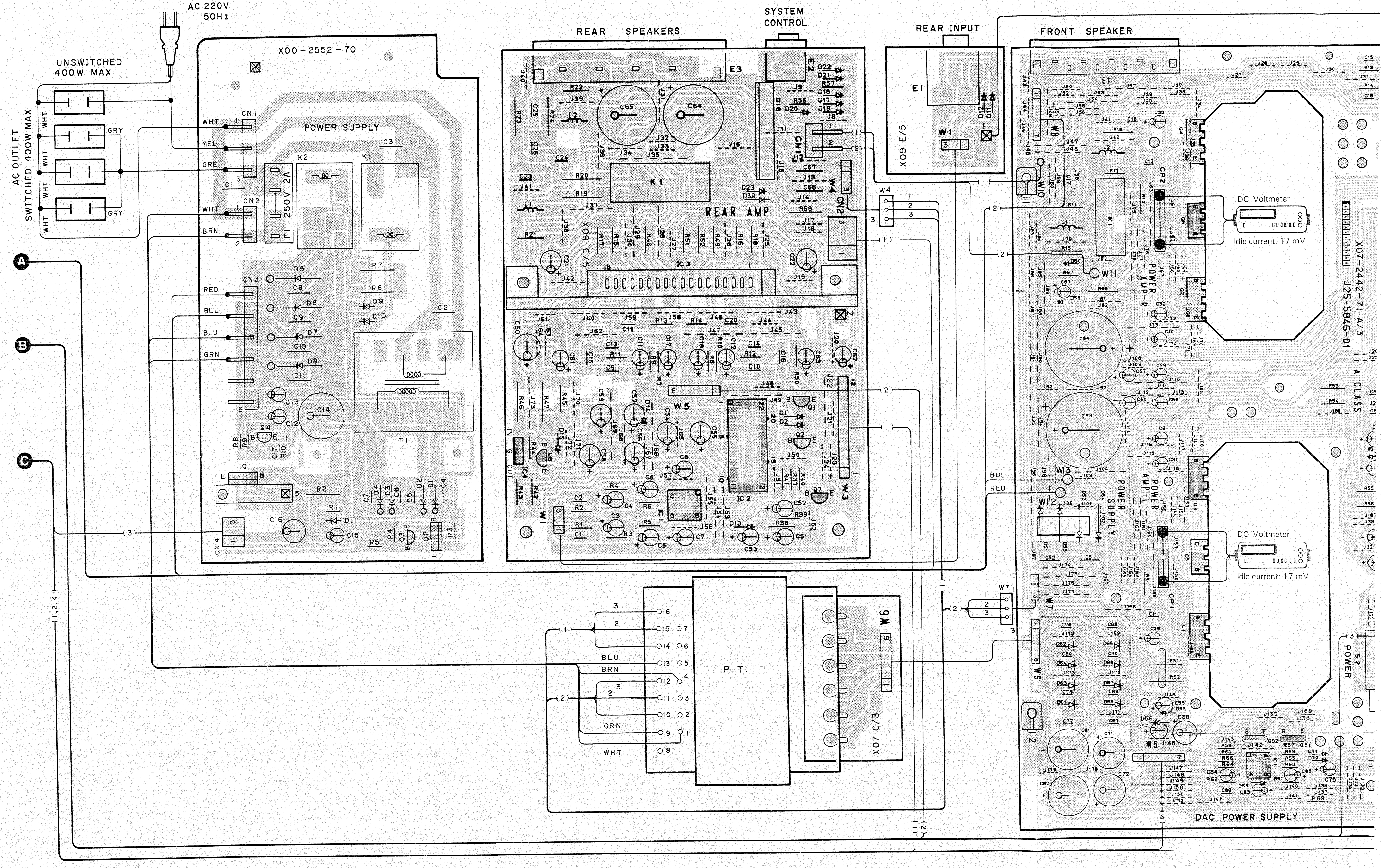
DA-07(1/2)(E)

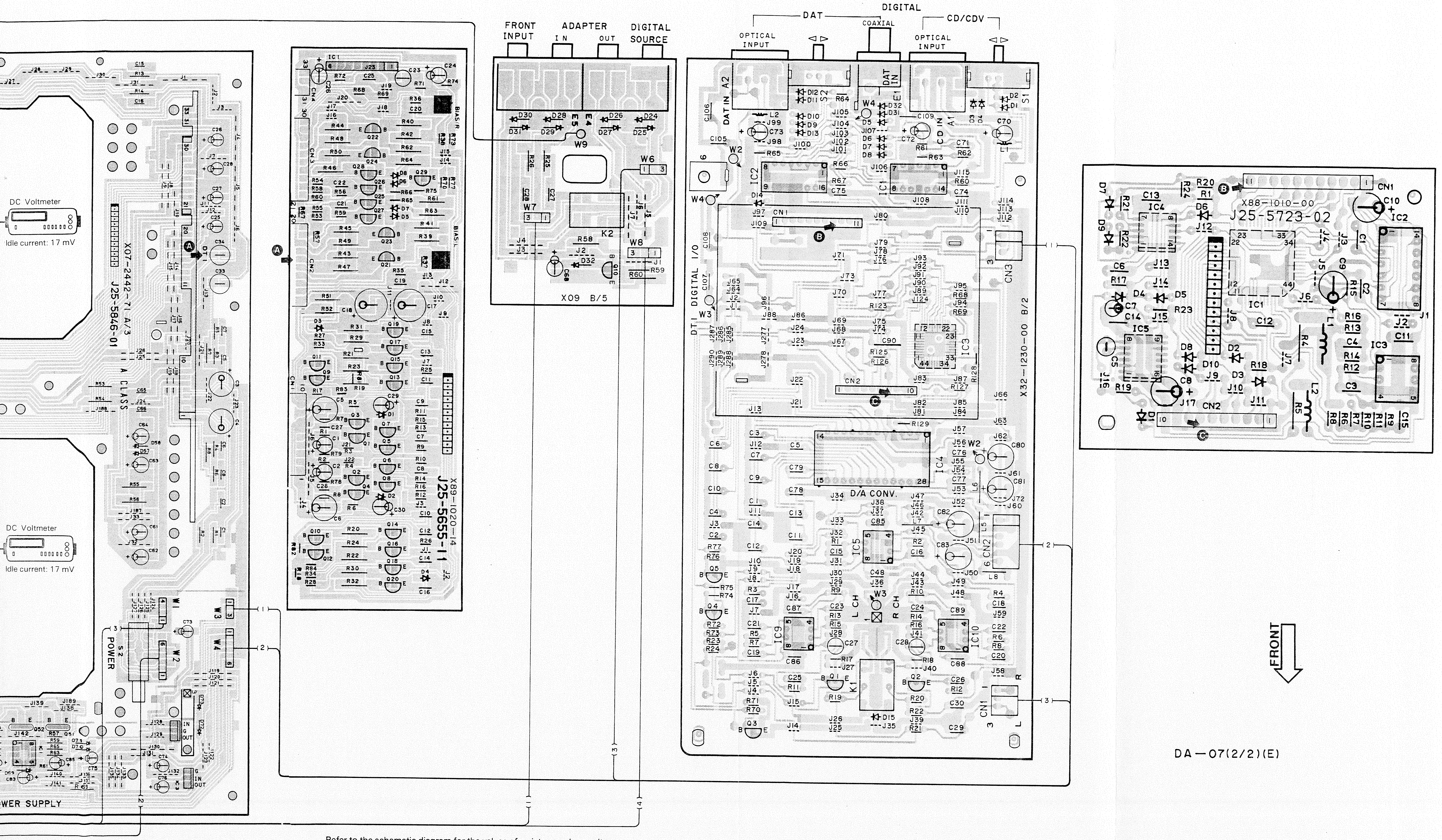
# PC BOARD (FOIL SIDE VIEW)


X09-2622-71 A/5
A
B
C
CN3
CN4
CN5
CN6
IC5
IC6
W8
VR1
VR2
FRONT BALANCE
MASTER VOLUME
X07 B/3
S1
W8
W9
E2
FRONT.B
FRONT.A
REAR
SPEAKERS
PHONES
S6
DAT
S5
CD
S4
ANALOG
D18
D20
D22
D23
W1
CN7
CP1
IC6 μ-COM
X1
CONTROL
CN4
CN5
CN6
IC8
TONE AMP
X32-1230-00 A/2
VR2 TREBLE
VR1 BASS
D30
DAT LOCK
D29
CD LOCK
D24
D25
D26
D27
D28
UP
S7
LEVEL
S8
DOWN
R
S10
REAR
S9
L
BALANCE
FRONT
L3
L4
C102
C103
POWER
S3

Refer to the schematic diagram for the values of resistors and capacitors.

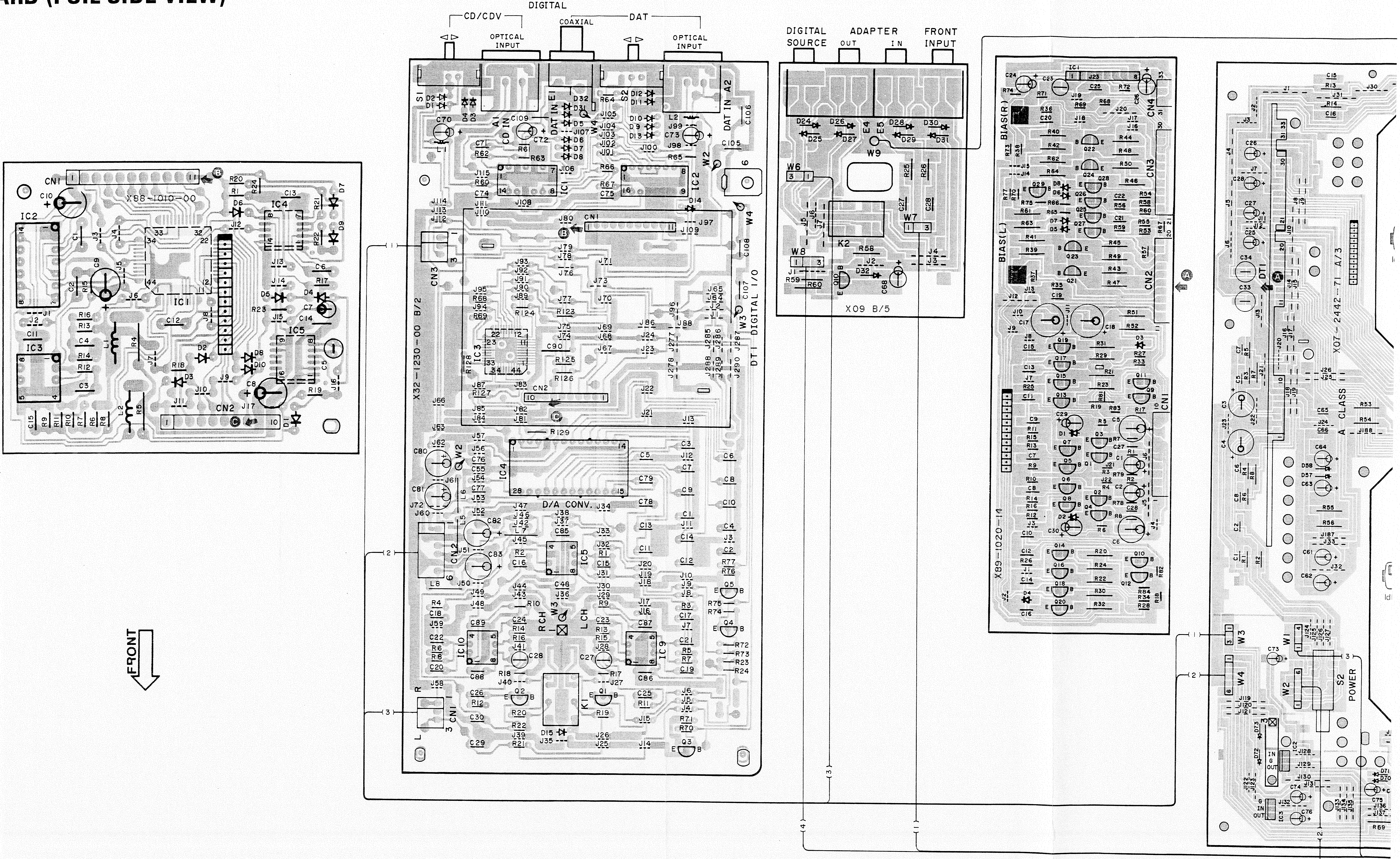
# PC BOARD (COMPONENT SIDE VIEW)


AC 220V
50Hz
UNSWITCHED
400W MAX
AC OUTLET
SWITCHED 400W MAX
WHT
GRY
X00-2552-70
POWER SUPPLY
CN1
CN2
CN3
CN4
WHT
YEL
GRE
WHT
BRN
RED
BLU
BLU
GRN
K2
K1
F1 250V 2A
T1
C14
REAR SPEAKERS
SYSTEM CONTROL
E3
E2
C65
C64
K1
REAR AMP
X09 C/5
IC3
IC2
W1
W3
W4
W5
REAR INPUT
E1
W1
X09 E/5
FRONT SPEAKER
E1
W8
W10
W11
W12
W13
K1
POWER AMP-R
POWER AMP-L
POWER SUPPLY
C54
C53
CP1
CP2
DC Voltmeter
Idle current: 17 mV
DC Voltmeter
Idle current: 17 mV
X07-2442-71 A/3
J25-5846-01
A CLASS
BUL
RED
W7
W6
W5
W9
P.T.
X07 C/3
BLU
BRN
GRN
WHT
DAC POWER SUPPLY
S2 POWER
A
B
C

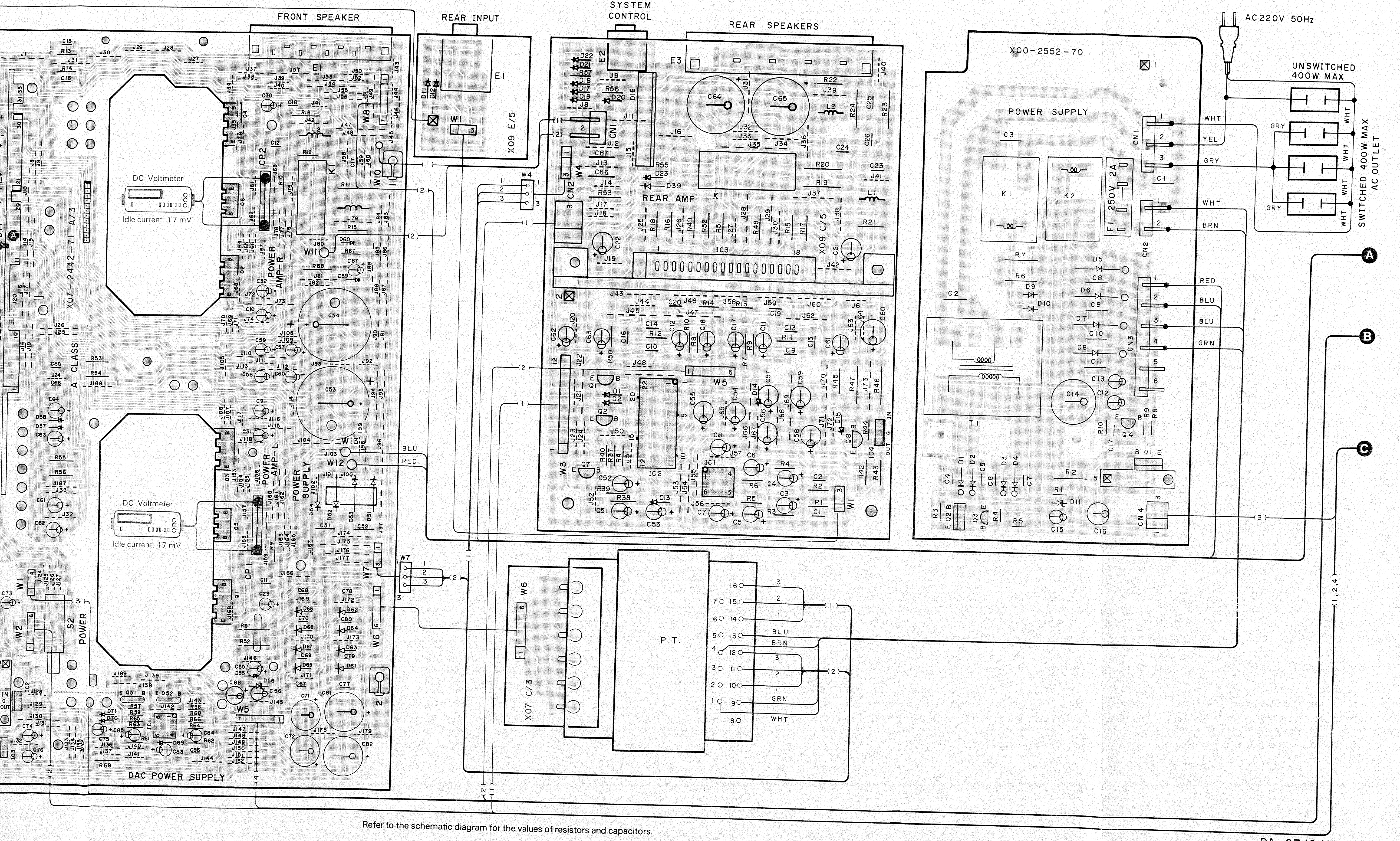

DC Voltmeter
Idle current: 17 mV
DC Voltmeter
Idle current: 17 mV
X07-2442-71 A/3
J25-5846-01
A CLASS
POWER
S2
POWER SUPPLY
BIAS/R
BIAS/L
X89-1020-14
J25-5655-11
FRONT INPUT
ADAPTER
IN
OUT
DIGITAL SOURCE
X09 B/5
DIGITAL
DAT
COAXIAL
CD/CDV
OPTICAL INPUT
OPTICAL INPUT
DAT IN
CD IN
DATIN A2
DT1 DIGITAL I/O
D/A CONV.
L CH
R CH
X32-1230-00 B/2
X88-1010-00
J25-5723-02
FRONT
DA—07(2/2)(E)

Refer to the schematic diagram for the values of resistors and capacitors.

# PC BOARD (FOIL SIDE VIEW)



DIGITAL
CD/CDV
COAXIAL
DAT
OPTICAL INPUT
OPTICAL INPUT
DIGITAL SOURCE
ADAPTER
OUT
IN
FRONT INPUT
X88-1010-00
X32-1230-00 B/2
X09 B/5
X89-1020-14
X07-2442-71 A/3
CD IN
DAT IN
DTI DIGITAL I/O
D/A CONV.
RCH
LCH
FRONT
BIAS(R)
BIAS(L)
A CLASS
S2 POWER


FRONT SPEAKER
REAR INPUT
SYSTEM CONTROL
REAR SPEAKERS
AC220V 50Hz
UNSWITCHED 400W MAX
SWITCHED 400W MAX AC OUTLET
X00-2552-70
POWER SUPPLY
REAR AMP
X09 C/5
X09 E/5
X07-2442-71 A/3
A CLASS
DC Voltmeter
Idle current: 17 mV
DC Voltmeter
Idle current: 17 mV
POWER AMP-R
POWER AMP-L
POWER SUPPLY
DAC POWER SUPPLY
S2 POWER
P.T.
X07 C/3
F1 250V 2A
WHT
YEL
GRY
BRN
RED
BLU
GRN
A
B
C

Refer to the schematic diagram for the values of resistors and capacitors.

DA-07 (2/2) (E)

(X09-2622-71)

IC1 : NJM4560D or M5218P
IC2 : LC7535
IC3 : STK4132/2
IC4 : AN7812F
IC5,6 : BA6229

Q1,2,11 : 2SC945(A)(Q,P) or 2SC1740S(Q,R)
Q7,15,16 : 2SA733(A)(Q,P) or 2SA933S(Q,R)
Q8 : 2SD882(Q,P)
Q10 : 2SC2320(E,F)

D1,2,11~13,39
17~22,24~31 : 1SS133 or 1SS176
D14 : RD11ES(B) or HZS11N(B)
D15 : RD5.1JS(B2) or HZS5.1S(B2)
D16 : RBV-402LFA
D23, 32 : 1SS131 or HSS104A

(X32-1230-00)

IC1 : TC74HCU04P
IC2 : TC74HC153P
IC3 : CXD1088Q
IC4 : TDA1541A
IC5 : NJM5532D-D
IC9, 10 : μPC4570C-A

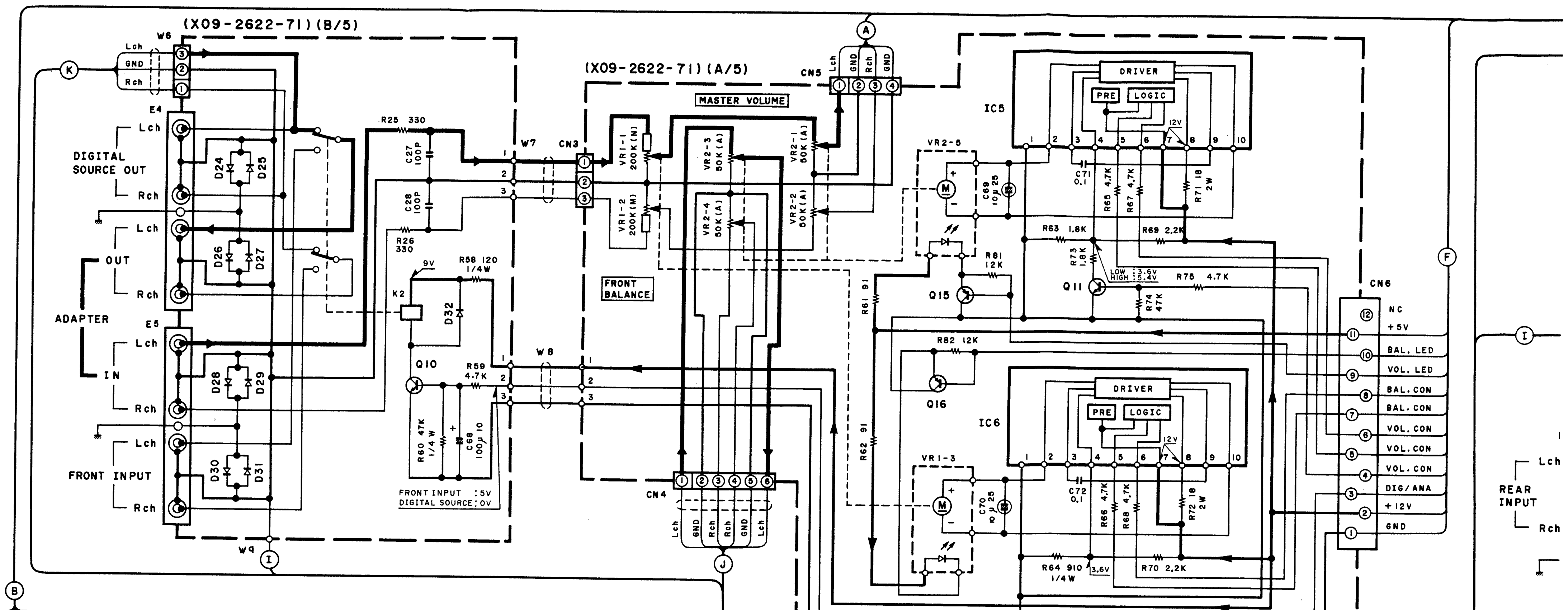
Q1,2 : 2SC2878(B)
Q3,5 : 2SC945(A)(Q,P) or 2SC1740S(Q,R)
Q4 : 2SA733(A)(Q,P) or 2SA933S(Q,R)

D1~14,31,32 : 1SS133 or 1SS176
D15 : 1SS131 or 1SS178

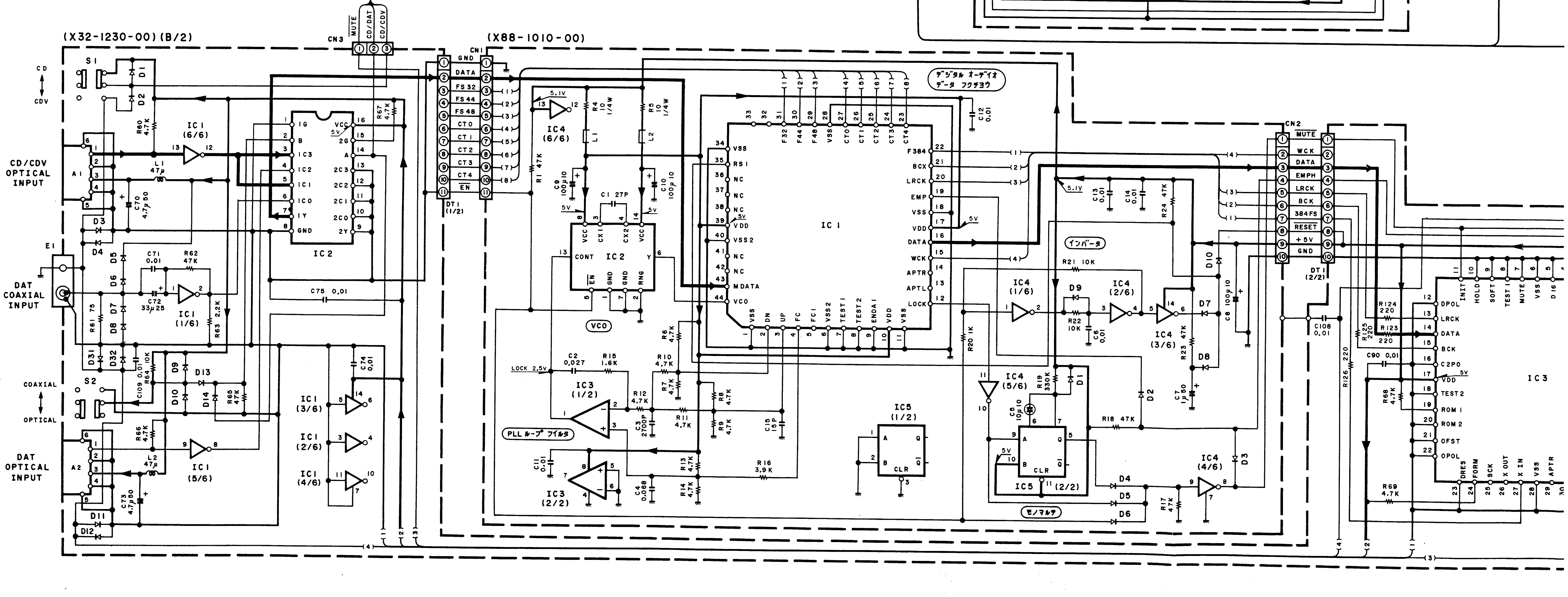
(X88-1010-00)

IC1 : TC17G014AF-0073
IC2 : SN74LS624N
IC3 : M5223P
IC4 : TC74HCU04F
IC5 : TC74HC123F

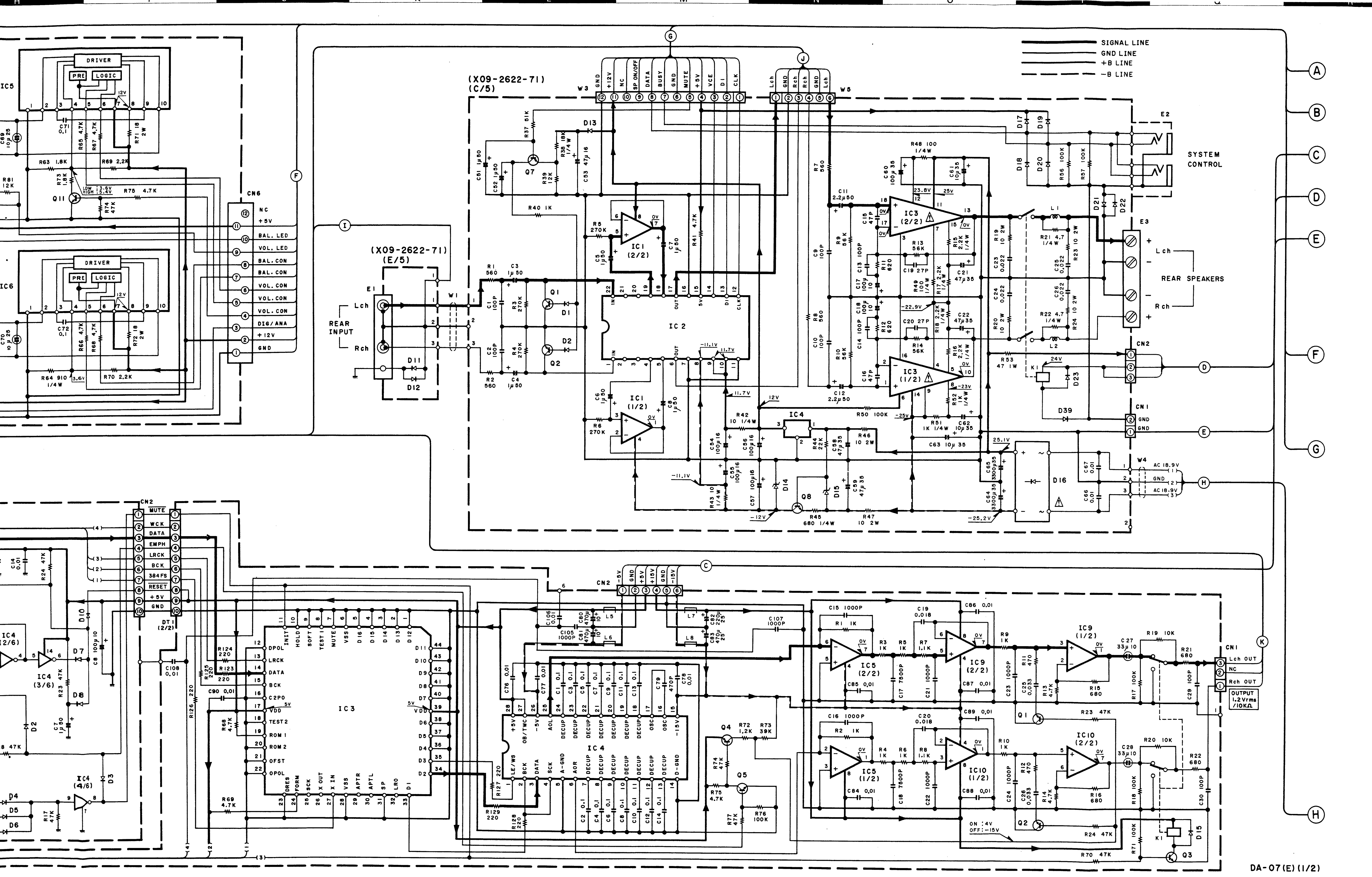
D1 : 1SS237(1)
D2~10 : 1SS133 or 1SS176



(X09-2622-71)(B/5)
(X09-2622-71)(A/5)
W6
Lch
GND
Rch
K
E4
DIGITAL SOURCE OUT
ADAPTER
OUT
IN
E5
FRONT INPUT
D24 D25 D26 D27 D28 D29 D30 D31
R25 330
C27 100P
C28 100P
R26 330
W7
CN3
K2
D32
R58 120 1/4W
9V
Q10
R59 4.7K
W8
R60 47K 1/4W
C68 100μ10
FRONT INPUT : 5V
DIGITAL SOURCE : 0V
W9
I
A
CN5
MASTER VOLUME
VR1-1 200K(M)
VR1-2 200K(M)
VR2-3 50K(A)
VR2-4 50K(A)
VR2-1 50K(A)
VR2-2 50K(A)
FRONT BALANCE
CN4
Lch GND Rch GND Rch GND Lch
J
IC5
DRIVER
PRE
LOGIC
VR2-5
C69 10μ25
C71 0.1
R65 4.7K
R67 4.7K
R71 18 2W
12V
R63 1.8K
R73 1.8K
R69 2.2K
LOW : 3.6V
HIGH : 0.4V
R75 4.7K
R81 12K
Q15
Q11
R74 47K
R61 91
R82 12K
Q16
IC6
R62 91
VR1-3
C70 10μ25
C72 0.1
R66 4.7K
R68 4.7K
R72 18 2W
R64 910 1/4W
3.6V
R70 2.2K
F
CN6
NC
+5V
BAL. LED
VOL. LED
BAL. CON
BAL. CON
VOL. CON
VOL. CON
VOL. CON
DIG/ANA
+12V
GND
B



MUTE
CD/DAT
CD/CDV
CN3
(X32-1230-00)(B/2)
(X88-1010-00)
CD
CDV
S1
D1
D2
R60 4.7K
IC1 (6/6)
CD/CDV OPTICAL INPUT
A1
L1 47μ
C70 4.7μ50
D3
D4
D5
D6
D7
D8
E1
DAT COAXIAL INPUT
C71 0.01
R62 47K
C72 33μ25
IC1 (1/6)
R61 75
R63 2.2K
R64 10K
C109 0.01
D31
D32
D9
D10
D13
D14
R65 47K
COAXIAL
OPTICAL
S2
A2
DAT OPTICAL INPUT
R66 4.7K
L2 47μ
C73 4.7μ50
IC1 (5/6)
D11
D12
IC2
1G B IC3 IC2 IC1 IC0 1Y GND VCC 2G A 2C3 2C2 2C1 2C0 2Y
R67 47K
5V
C75 0.01
IC1 (3/6)
IC1 (2/6)
IC1 (4/6)
C74 0.01
DT1 (1/2)
CN1
GND DATA FS32 FS44 FS48 CT0 CT1 CT2 CT3 CT4 EN
5.1V
IC4 (6/6)
R4 10 1/4W
R5 10 1/4W
L1
L2
R1 47K
C9 100μ10
C10 100μ10
C1 27P
IC2
VCC CX1 CX2 VCC CONT Y EN GND GND RNG
VCO
R6 4.7K
R10 4.7K
LOCK 2.5V
C2 0.027
R15 1.6K
IC3 (1/2)
R12 4.7K
R7 4.7K
R8 4.7K
C3 2700P
R11 4.7K
R9 4.7K
C15 15P
PLL ループ フィルタ
C11 0.01
IC3 (2/2)
C4 0.068
R13 4.7K
R14 4.7K
R16 3.9K
デジタル オーディオ データ フクチョウ
C12 0.01
IC1
VSS RSI NC NC NC VDD VSS2 NC NC MDATA VCO
F32 F44 F48 VSS CT0 CT1 CT2 CT3 CT4
F384 BCK LRCK EMP VSS VDD DATA WCK APTR APTL LOCK
VSS DN UP FC FC1 VSS2 TEST1 TEST2 ENDA1 VDD VSS
IC5 (1/2)
A B CLR Q
5.1V
C13 0.01
C14 0.01
R24 47K
インバータ
R21 10K
IC4 (1/6)
D9
IC4 (2/6)
R22 10K
C6 0.01
IC4 (3/6)
R20 1K
D10
C8 100μ10
D7
D8
R23 47K
C7 1μ50
IC4 (5/6)
C5 10μ10
R19 330K
D1
D2
IC5 (2/2)
R18 47K
D4
D5
D6
IC4 (4/6)
D3
R17 47K
モノマルチ
CN2
MUTE WCK DATA EMPH LRCK BCK 384FS RESET +5V GND
DT1 (2/2)
C108 0.01
R126 220
R125 220
R124 220
R123 220
C90 0.01
R68 4.7K
R69 4.7K
IC3
DPOL LRCK DATA BCK C2PO VDD TEST2 ROM1 ROM2 OFST OPOL
INIT HOLD SOFT TEST1 MUTE D16
DRES FORM SCK XOUT XIN VSS APTR
REAR INPUT
Lch
Rch


SIGNAL LINE
GND LINE
+B LINE
–B LINE
(X09-2622-71)
(C/5)
(X09-2622-71)
(E/5)
W3
W5
W1
W4
GND +12V NC SP ON/OFF DATA BUSY GND MUTE +5V VCE DI CLK
Lch GND Rch GND GND Lch
SYSTEM CONTROL
REAR SPEAKERS
Lch
Rch
REAR INPUT
IC1 (2/2)
IC1 (1/2)
IC2
IC3 (2/2)
IC3 (1/2)
IC4
IC5
IC6
DRIVER
PRE
LOGIC
CN6
NC
+5V
BAL. LED
VOL. LED
BAL. CON
BAL. CON
VOL. CON
VOL. CON
VOL. CON
DIG/ANA
+12V
GND
CN2
MUTE
WCK
DATA
EMPH
LRCK
BCK
384FS
RESET
+5V
GND
DT1 (2/2)
CN1
GND
GND
AC 18.9V
GND
AC 18.9V
D16
K1
24V
-5V GND +15V GND -15V
IC3
IC4
IC5 (2/2)
IC5 (1/2)
IC9 (1/2)
IC9 (2/2)
IC10 (1/2)
IC10 (2/2)
Lch OUT
NC
Rch OUT
OUTPUT 1.2Vrms /10KΩ
ON :4V OFF:-15V
A
B
C
D
E
F
G
H
I
J
K

DA-07(E)(1/2)

2SA112
2SA733
2SA992
2SC184
2SC232
2SC263
2SC287
2SC945
2SC259
2SD882
2SD126
2SA111
2SC283
2SA933
2SC174
2SC34
2SA15
2SB94
2SC39

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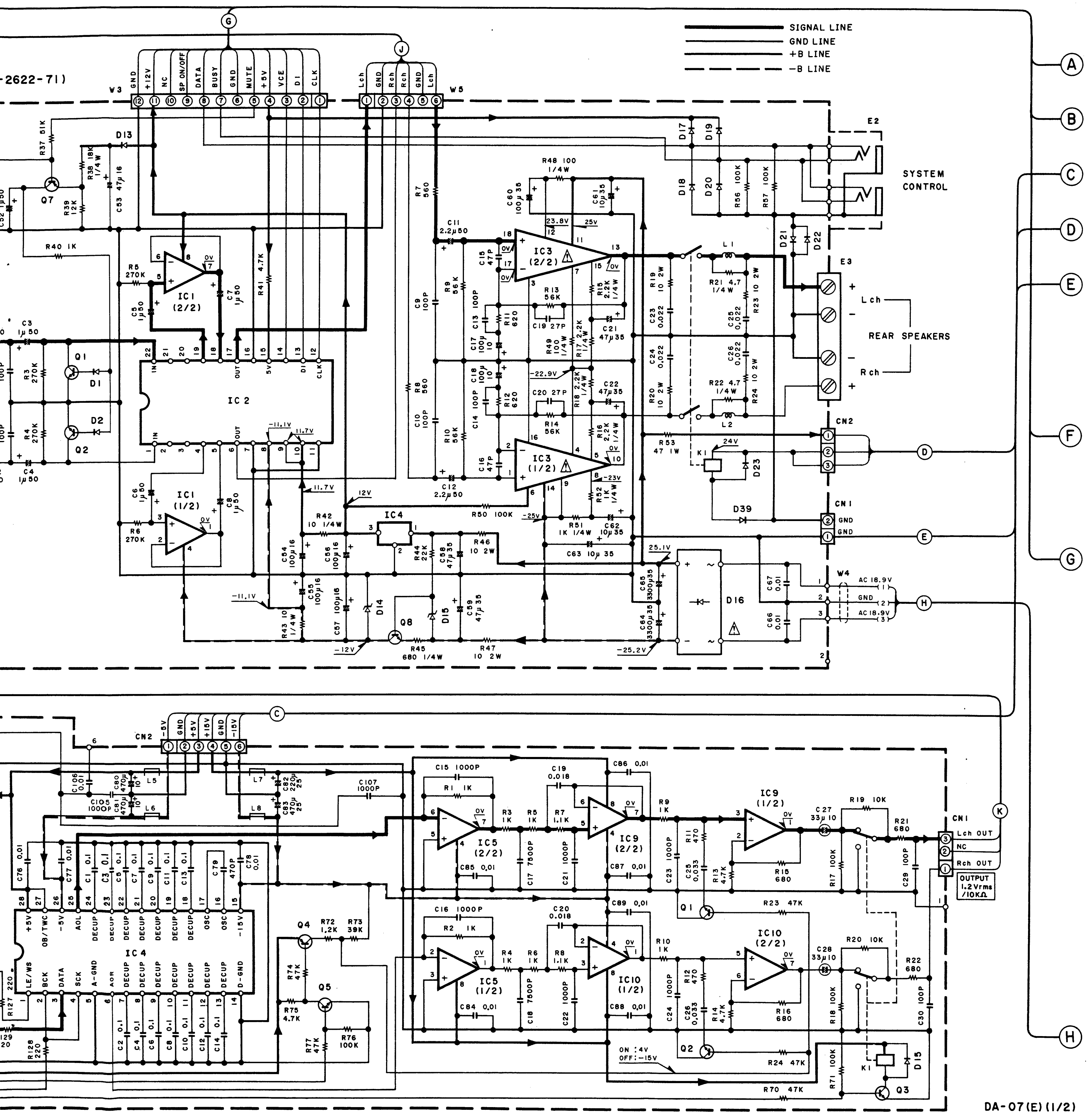
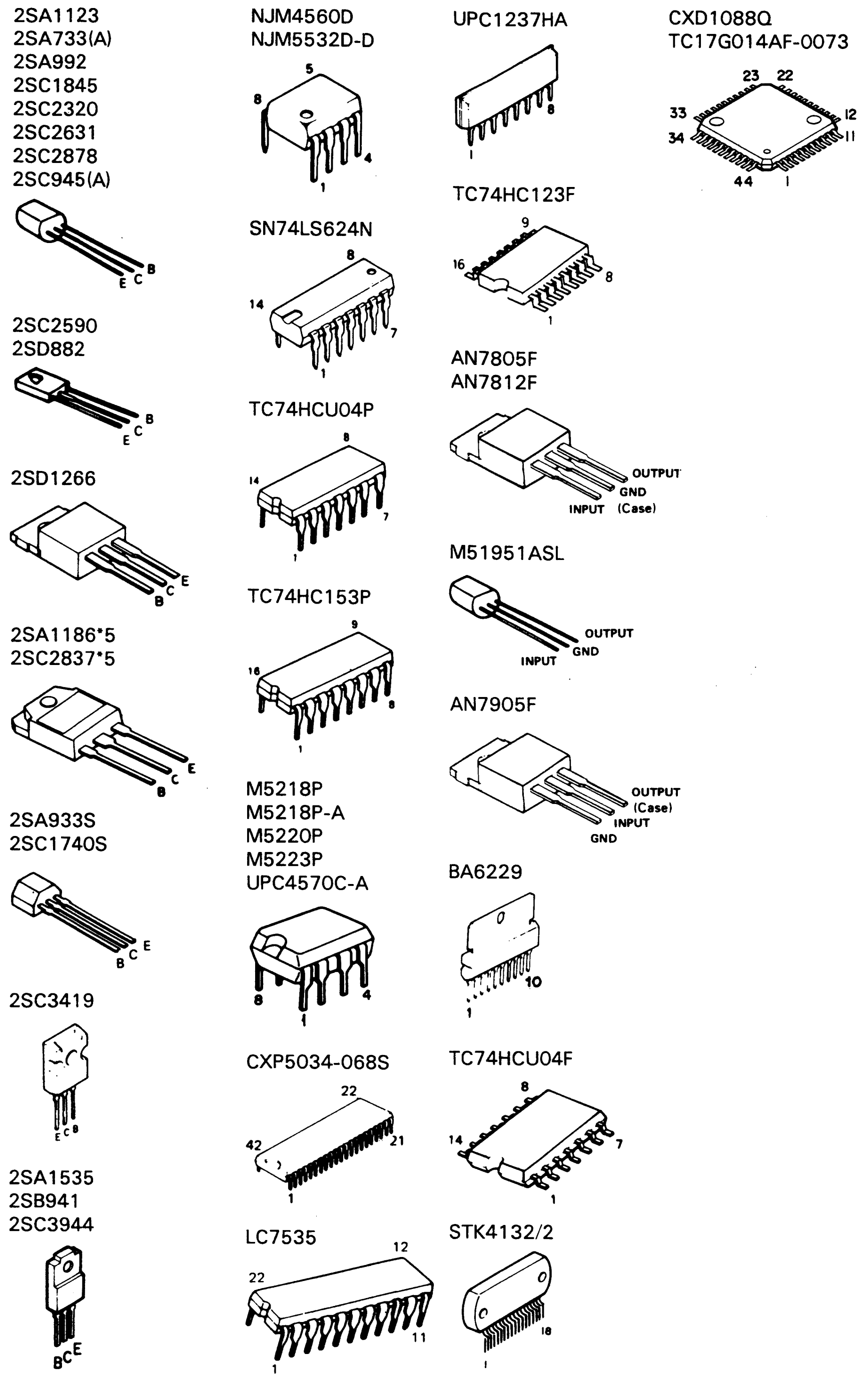

SIGNAL LINE
GND LINE
+B LINE
−B LINE
-2622-71)
W3
GND
+12V
NC
SP ON/OFF
DATA
BUSY
GND
MUTE
+5V
VCE
DI
CLK
W5
Lch
GND
Rch
Rch
GND
Lch
E2
SYSTEM CONTROL
E3
Lch
REAR SPEAKERS
Rch
CN2
CN1
GND
GND
W4
AC 18.9V
GND
AC 18.9V
IC1 (2/2)
IC1 (1/2)
IC2
IC3 (2/2)
IC3 (1/2)
IC4
D16
Q7
Q1
Q2
Q8
D13
D14
D15
D17
D18
D19
D20
D21
D22
D23
D39
K1
L1
L2
23.8V
25V
-22.9V
-23V
-11.1V
11.7V
12V
-25V
25.1V
-12V
-25.2V
CN2
-5V
GND
+5V
+15V
GND
-15V
IC4
+5V
OB/TWC
-5V
AOL
DECUP
AOR
OSC
-15V
LE/WS
BCK
DATA
SCK
A-GND
D-GND
IC5 (2/2)
IC5 (1/2)
IC9 (2/2)
IC9 (1/2)
IC10 (1/2)
IC10 (2/2)
Q1
Q2
Q3
Q4
Q5
K1
D15
CN1
Lch OUT
NC
Rch OUT
OUTPUT 1.2Vrms /10KΩ
ON : 4V
OFF: -15V
A
B
C
D
E
F
G
H
J
K

DA-07(E)(1/2)


2SA1123
2SA733(A)
2SA992
2SC1845
2SC2320
2SC2631
2SC2878
2SC945(A)
NJM4560D
NJM5532D-D
UPC1237HA
CXD1088Q
TC17G014AF-0073
SN74LS624N
TC74HC123F
2SC2590
2SD882
AN7805F
AN7812F
OUTPUT
GND
INPUT (Case)
TC74HCU04P
2SD1266
M51951ASL
OUTPUT
INPUT
GND
TC74HC153P
2SA1186*5
2SC2837*5
AN7905F
OUTPUT (Case)
INPUT
GND
M5218P
M5218P-A
M5220P
M5223P
UPC4570C-A
2SA933S
2SC1740S
BA6229
2SC3419
CXP5034-068S
TC74HCU04F
2SA1535
2SB941
2SC3944
LC7535
STK4132/2
E
C
B

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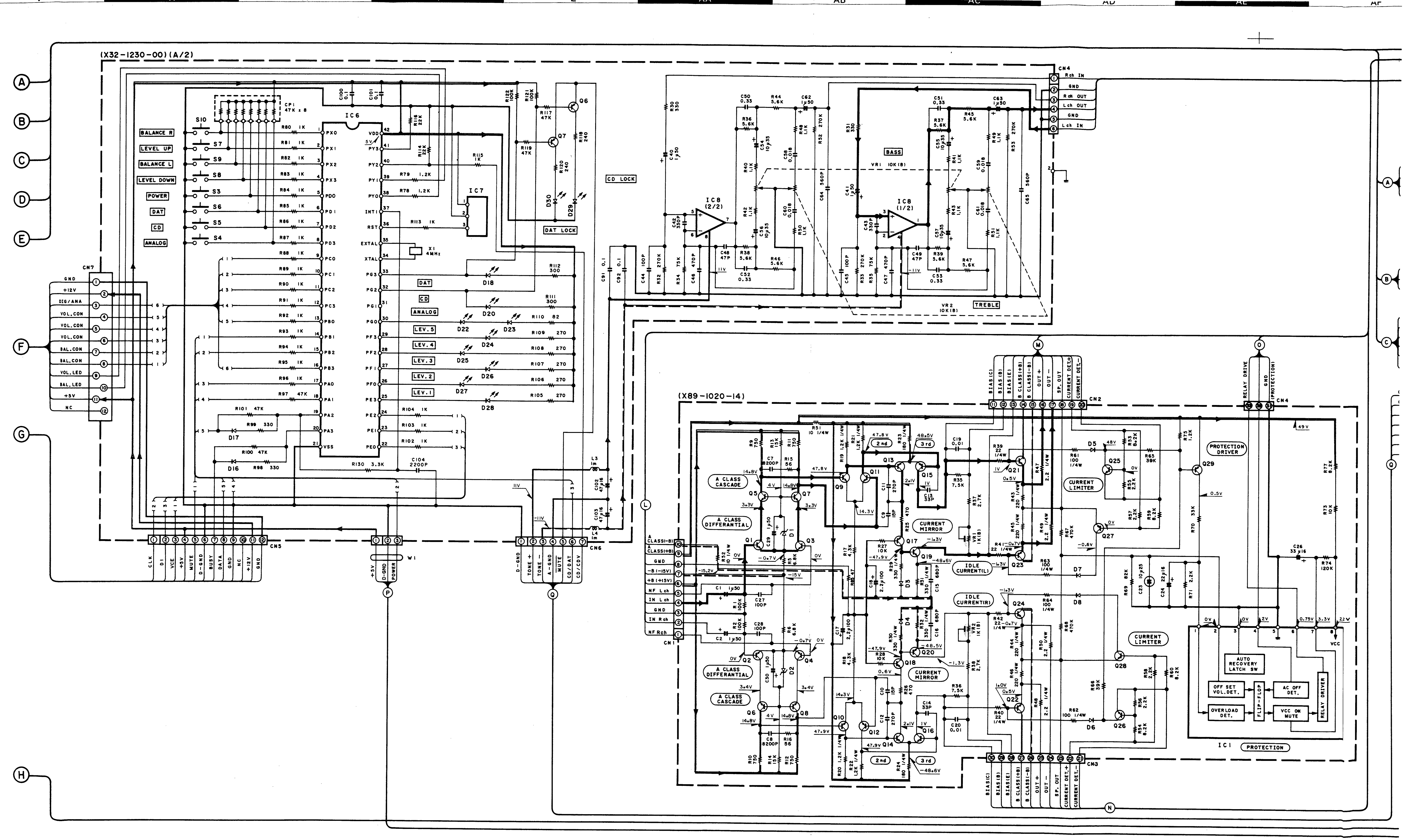
Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.

Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen Spannungsmesser gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u. U. geringfügig.

**DA-07**

**KENWOOD**

Y08-3392-71


(X32-1230-00) (A/2)
(X89-1020-14)
IC6
IC7
IC8 (2/2)
IC8 (1/2)
IC1
PROTECTION
CP1 47K x 8
X1 4MHz
BALANCE R
LEVEL UP
BALANCE L
LEVEL DOWN
POWER
DAT
CD
ANALOG
CD LOCK
DAT LOCK
LEV.5
LEV.4
LEV.3
LEV.2
LEV.1
BASS
TREBLE
VR1 10K(B)
VR2 10K(B)
CN1
CN2
CN3
CN4
CN5
CN6
CN7
W1
GND
+12V
DIG/ANA
VOL.CON
BAL.CON
VOL.LED
BAL.LED
+5V
NC
CLK
DI
VCE
MUTE
D-GND
BUSY
DATA
POWER
TONE +
TONE -
A-GND
CD/DAT
CD/CDV
Rch IN
Rch OUT
Lch OUT
Lch IN
A CLASS CASCADE
A CLASS DIFFERANTIAL
CURRENT MIRROR
IDLE CURRENT(L)
IDLE CURRENT(R)
CURRENT LIMITER
PROTECTION DRIVER
2nd
3rd
BIAS(C)
BIAS(B)
BIAS(E)
B CLASS(+B)
B CLASS(-B)
OUT +
OUT -
SP. OUT
CURRENT DET.+
CURRENT DET.-
RELAY DRIVE
GND (PROTECTION)
A CLASS(-B)
A CLASS(+B)
-B (-15V)
+B (+15V)
NF Lch
IN Lch
IN Rch
NF Rch
AUTO RECOVERY LATCH SW
OFF SET VOL.DET.
FLIP-FLOP
AC OFF DET.
OVERLOAD DET.
VCC ON MUTE
RELAY DRIVER
VCC
A
B
C
D
E
F
G
H
L
M
N
O
P
Q

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DC v
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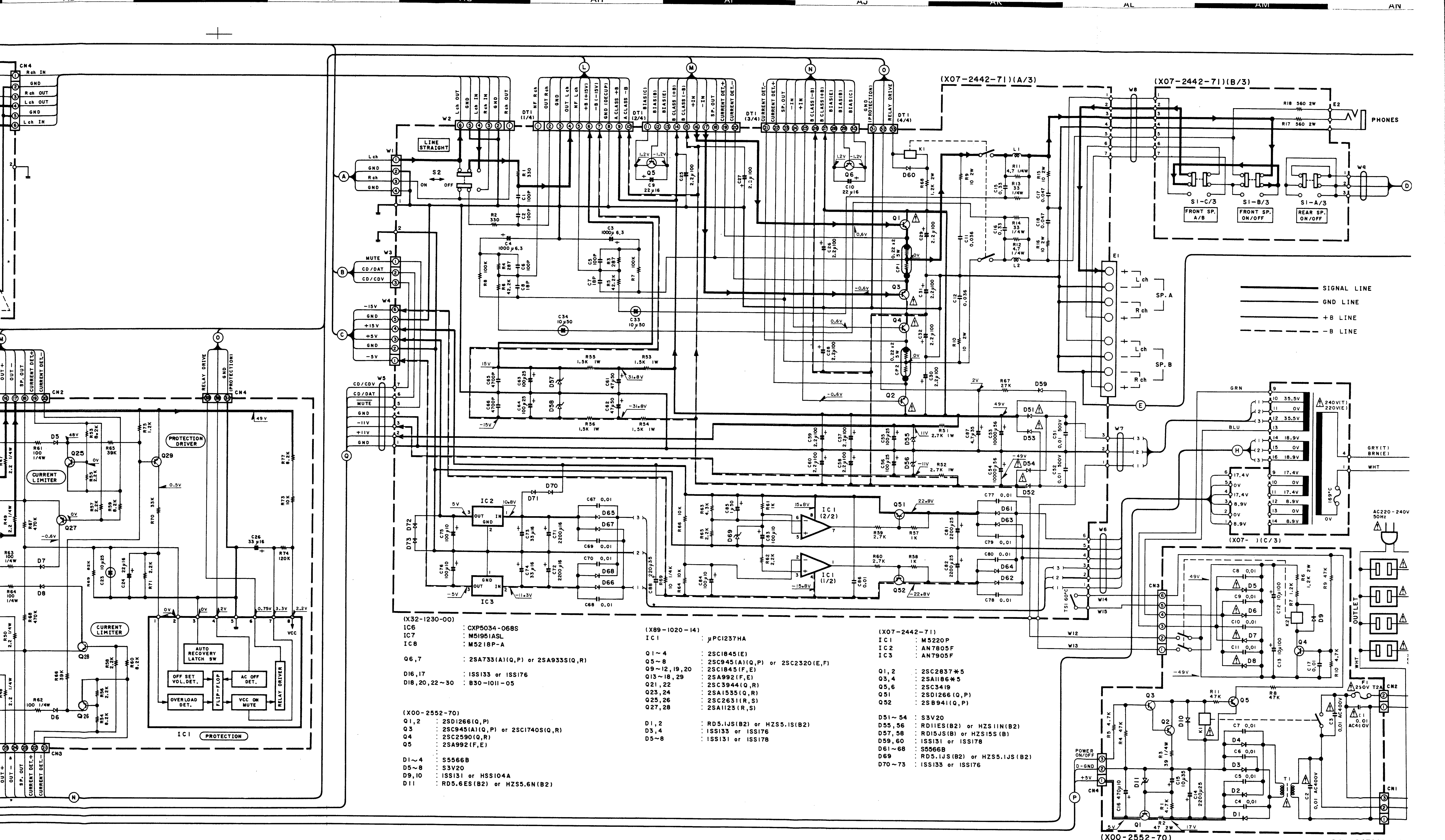
AH
AI
AJ
AK
AL
AM
AN
CN4
Rch IN
GND
Rch OUT
Lch OUT
GND
Lch IN
W1
W2
W3
W4
W5
W6
W7
W8
W9
LINE STRAIGHT
S2
ON
OFF
MUTE
CD/DAT
CD/CDV
-15V
+15V
+5V
-5V
-11V
+11V
DT1 (1/4)
DT1 (2/4)
DT1 (3/4)
DT1 (4/4)
NF Rch
OUT Rch
OUT Lch
NF Lch
+B (+15V)
-B (-15V)
GND (DECUP)
A CLASS +B
A CLASS -B
BIAS(C)
BIAS(E)
B CLASS (+B)
B CLASS (-B)
+IN
-IN
SP. OUT
CURRENT DET.+
CURRENT DET.-
GND (PROTECTION)
RELAY DRIVE
(X07-2442-71)(A/3)
(X07-2442-71)(B/3)
(X07- )(C/3)
PHONES
S1-C/3
FRONT SP. A/B
S1-B/3
FRONT SP. ON/OFF
S1-A/3
REAR SP. ON/OFF
SP. A
SP. B
Lch
Rch
SIGNAL LINE
GND LINE
+B LINE
-B LINE
GRN
BLU
GRY(T)
BRN(E)
WHT
240V(T)
220V(E)
169°C
AC220-240V 50Hz
OUTLET
IC1
IC2
IC3
PROTECTION
PROTECTION DRIVER
CURRENT LIMITER
AUTO RECOVERY LATCH SW
OFF SET VOL.DET.
FLIP-FLOP
AC OFF DET.
RELAY DRIVER
OVERLOAD DET.
VCC ON MUTE
CN2
CN3
CN1
POWER ON/OFF
D-GND
+5V
TS1 60°C
(X00-2552-70)
(X32-1230-00)
(X89-1020-14)

(X32-1230-00)

| | |
|---|---|
| IC6 | CXP5034-068S |
| IC7 | M51951ASL |
| IC8 | M5218P-A |
| Q6,7 | 2SA733(A)(Q,P) or 2SA933S(Q,R) |
| D16,17 | 1SS133 or 1SS176 |
| D18,20,22~30 | B30-1011-05 |

(X00-2552-70)

| | |
|---|---|
| Q1,2 | 2SD1266(Q,P) |
| Q3 | 2SC945(A)(Q,P) or 2SC1740S(Q,R) |
| Q4 | 2SC2590(Q,R) |
| Q5 | 2SA992(F,E) |
| D1~4 | S5566B |
| D5~8 | S3V20 |
| D9,10 | 1SS131 or HSS104A |
| D11 | RD5.6ES(B2) or HZS5.6N(B2) |

(X89-1020-14)

| | |
|---|---|
| IC1 | μPC1237HA |
| Q1~4 | 2SC1845(E) |
| Q5~8 | 2SC945(A)(Q,P) or 2SC2320(E,F) |
| Q9~12,19,20 | 2SC1845(F,E) |
| Q13~18,29 | 2SA992(F,E) |
| Q21,22 | 2SC3944(Q,R) |
| Q23,24 | 2SA1535(Q,R) |
| Q25,26 | 2SC2631(R,S) |
| Q27,28 | 2SA1123(R,S) |
| D1,2 | RD5.1JS(B2) or HZS5.1S(B2) |
| D3,4 | 1SS133 or 1SS176 |
| D5~8 | 1SS131 or 1SS178 |

(X07-2442-71)

| | |
|---|---|
| IC1 | M5220P |
| IC2 | AN7805F |
| IC3 | AN7905F |
| Q1,2 | 2SC2837*5 |
| Q3,4 | 2SA1186*5 |
| Q5,6 | 2SC3419 |
| Q51 | 2SD1266(Q,P) |
| Q52 | 2SB941(Q,P) |
| D51~54 | S3V20 |
| D55,56 | RD11ES(B2) or HZS11N(B2) |
| D57,58 | RD15JS(B) or HZS15S(B) |
| D59,60 | 1SS131 or 1SS178 |
| D61~68 | S5566B |
| D69 | RD5.1JS(B2) or HZS5.1JS(B2) |
| D70~73 | 1SS133 or 1SS176 |

DA-07(E)(2/2)

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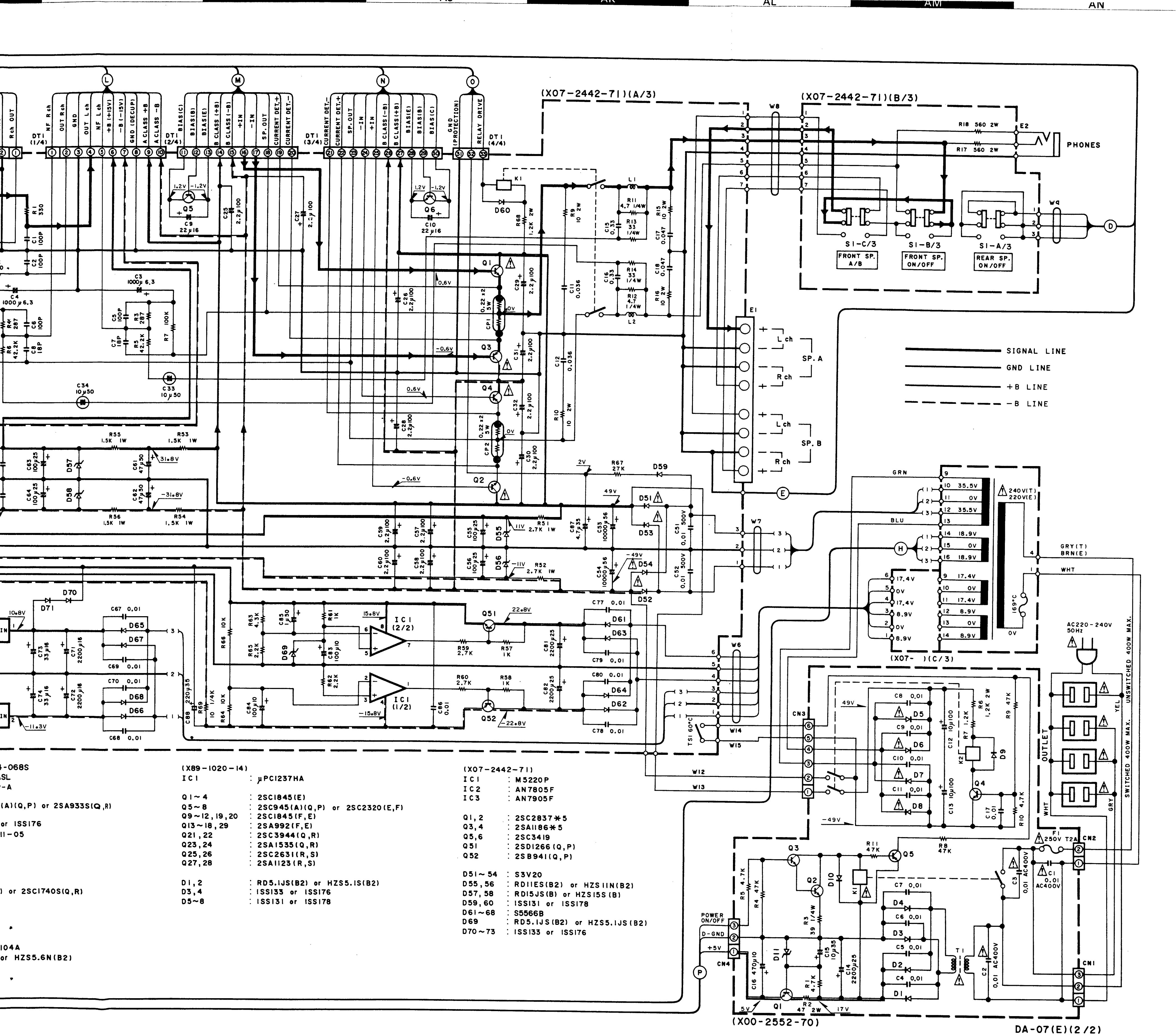
AL
AM
AN
AO
AP
(X07-2442-71)(A/3)
(X07-2442-71)(B/3)
DT1 (1/4)
DT1 (2/4)
DT1 (3/4)
DT1 (4/4)
NF Rch
OUT Rch
GND
OUT Lch
NF Lch
+B (+15V)
-B (-15V)
GND (DECUP)
A CLASS +B
A CLASS -B
BIAS(C)
BIAS(B)
BIAS(E)
B CLASS (+B)
B CLASS (-B)
+IN
-IN
SP. OUT
CURRENT DET.+
CURRENT DET.-
GND (PROTECTION)
RELAY DRIVE
PHONES
R18 560 2W
R17 560 2W
E2
W8
W9
S1-C/3
S1-B/3
S1-A/3
FRONT SP. A/B
FRONT SP. ON/OFF
REAR SP. ON/OFF
E1
Lch
Rch
SP. A
SP. B
SIGNAL LINE
GND LINE
+B LINE
-B LINE
W7
W6
W14
W15
W12
W13
TS1 60°C
K1
D60
L1
L2
Q1
Q2
Q3
Q4
Q5
Q6
Q51
Q52
IC1 (2/2)
IC1 (1/2)
D51
D52
D53
D54
D55
D56
D57
D58
D59
D61
D62
D63
D64
D65
D66
D67
D68
D69
D70
D71
GRN
BLU
240V(T)
220V(E)
GRY(T)
BRN(E)
WHT
(X07- )(C/3)
AC220-240V 50Hz
OUTLET
UNSWITCHED 400W MAX.
SWITCHED 400W MAX.
YEL
GRY
F1 250V T2A
CN1
CN2
CN3
CN4
POWER ON/OFF
D-GND
+5V
(X00-2552-70)
DA-07(E)(2/2)

-068S
SL
-A

(A)(Q,P) or 2SA933S(Q,R)

or 1SS176
11-05

) or 2SC1740S(Q,R)

104A
or HZS5.6N(B2)

(X89-1020-14)
IC1 : μPC1237HA

Q1~4 : 2SC1845(E)
Q5~8 : 2SC945(A)(Q,P) or 2SC2320(E,F)
Q9~12, 19, 20 : 2SC1845(F,E)
Q13~18, 29 : 2SA992(F,E)
Q21, 22 : 2SC3944(Q,R)
Q23, 24 : 2SA1535(Q,R)
Q25, 26 : 2SC2631(R,S)
Q27, 28 : 2SA1123(R,S)

D1, 2 : RD5.1JS(B2) or HZS5.1S(B2)
D3, 4 : 1SS133 or 1SS176
D5~8 : 1SS131 or 1SS178

(X07-2442-71)
IC1 : M5220P
IC2 : AN7805F
IC3 : AN7905F

Q1, 2 : 2SC2837*5
Q3, 4 : 2SA1186*5
Q5, 6 : 2SC3419
Q51 : 2SD1266(Q,P)
Q52 : 2SB941(Q,P)

D51~54 : S3V20
D55, 56 : RD11ES(B2) or HZS11N(B2)
D57, 58 : RD15JS(B) or HZS15S(B)
D59, 60 : 1SS131 or 1SS178
D61~68 : S5566B
D69 : RD5.1JS(B2) or HZS5.1JS(B2)
D70~73 : 1SS133 or 1SS176

n impedance voltme- ations between indi-

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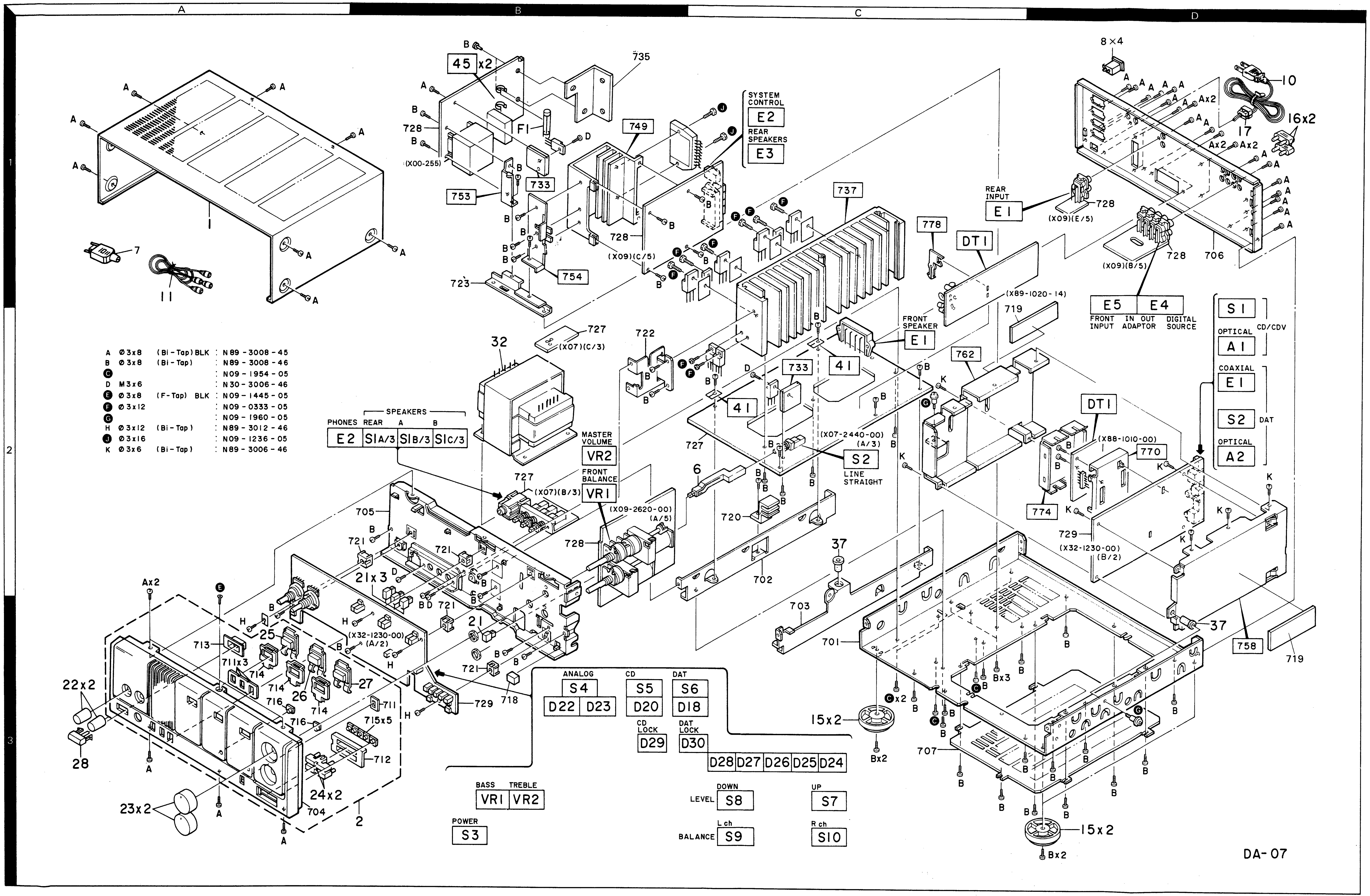
Y08-3392-71

DA-07
KENWOOD

# DA-07 DA-07

## EXPLODED VIEW


A
B
C
D
1
2
3
1
7
11
A
A x2
B
45 x2
735
728
(X00-255)
F1
753
733
749
SYSTEM CONTROL
E2
REAR SPEAKERS
E3
728
(X09)(C/5)
754
723
737
778
DT1
REAR INPUT
E1
(X09)(E/5)
728
(X09)(B/5)
706
8×4
10
16x2
17
Ax2
(X89-1020-14)
719
FRONT SPEAKER
E1
E5
E4
FRONT INPUT
IN OUT ADAPTOR
DIGITAL SOURCE
S1
OPTICAL
CD/CDV
A1
COAXIAL
E1
S2
DAT
OPTICAL
A2
727
(X07)(C/3)
32
722
733
41
762
DT1
(X88-1010-00)
770
774
729
(X32-1230-00) (B/2)
PHONES
REAR
SPEAKERS
E2
S1A/3
S1B/3
S1C/3
MASTER VOLUME
VR2
FRONT BALANCE
VR1
727
(X07)(B/3)
(X09-2620-00) (A/5)
728
(X07-2440-00) (A/3)
S2
LINE STRAIGHT
6
720
702
37
703
701
758
719
705
721
21x3
Ax2
(X32-1230-00) (A/2)
713
711x3
714
25
26
27
716
711
715x5
712
24x2
22x2
28
23x2
704
2
21
718
729
H
ANALOG
CD
DAT
S4
S5
S6
D22
D23
D20
D18
CD LOCK
DAT LOCK
D29
D30
D28
D27
D26
D25
D24
BASS
TREBLE
VR1
VR2
POWER
S3
DOWN
UP
LEVEL
S8
S7
L ch
R ch
BALANCE
S9
S10
15x2
Bx2
Bx3
707
DA-07

| | | | |
|---|---|---|---|
| A | Ø3x8 | (Bi-Tap) BLK | : N89-3008-45 |
| B | Ø3x8 | (Bi-Tap) | : N89-3008-46 |
| C | | | : N09-1954-05 |
| D | M3x6 | | : N30-3006-46 |
| E | Ø3x8 | (F-Tap) BLK | : N09-1445-05 |
| F | Ø3x12 | | : N09-0333-05 |
| G | | | : N09-1960-05 |
| H | Ø3x12 | (Bi-Tap) | : N89-3012-46 |
| J | Ø3x16 | | : N09-1236-05 |
| K | Ø3x6 | (Bi-Tap) | : N89-3006-46 |

**Parts with the exploded numbers larger than 700 are not supplied.**

# PARTS LIST

⁎ New Parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.
Teile ohne **Parts No.** werden nicht geliefert.

| Ref. No. 参照番号 | Address 位置 | New Parts 新 | Parts No. 部品番号 | Description 部品名／規格 | Desti- nation 仕向 | Re- marks 備考 |
|---|---|---|---|---|---|---|
| **DA-07** | | | | | | |
| 1 | 1A | | A01-1633-01 | METALLIC CABINET | | |
| 2 | 3B | * | A20-5488-22 | PANEL ASSY | | |
| - | | * | B46-0112-12 | WARRANTY CARD | E | |
| - | | * | B46-0143-03 | WARRANTY CARD | T | |
| - | | * | B50-9691-00 | INSTRUCTION MANUAL(ENGLISH) | | |
| 6 | 2C | | D21-1433-04 | EXTENSION SHAFT(LINE STRAIGHT) | | |
| ⚠ 7 | 1A | | E03-0049-05 | AC PLUG | T | |
| ⚠ 8 | 1D | | E03-0055-05 | AC OUTLET | E | |
| ⚠ 8 | 1D | | E03-0085-05 | AC OUTLET | T | |
| 10 | 1D | | E30-1416-05 | AC POWER CORD | T | |
| 10 | 1D | * | E30-2579-05 | AC POWER CORD | E | |
| 11 | 1A | | E30-1392-05 | CORD WITH PLUG | | |
| ⚠ F1 | 1B | | F06-2021-05 | FUSE (SEMKO) (250V T2A) | | |
| - | | * | H01-8543-04 | ITEM CARTON CASE | | |
| - | | * | H10-3597-02 | POLYSTYRENE FOAMED FIXTURE | | |
| - | | * | H10-3598-12 | POLYSTYRENE FOAMED FIXTURE | | |
| - | | * | H12-2038-04 | PACKING FIXTURE | | |
| - | | * | H12-2067-04 | PACKING FIXTURE | | |
| - | | | H25-0181-04 | PROTECTION BAG (150X260X0.05) | T | |
| - | | | H25-0224-04 | PROTECTION BAG (800X400X0.03) | | |
| - | | | H25-0232-04 | PROTECTION BAG (235X350X0.03) | | |
| 15 | 3C,3D | * | J02-0373-05 | FOOT | | |
| 16 | 1D | | J12-0094-05 | PIN | | |
| ⚠ 17 | 1D | | J42-0083-05 | POWER CORD BUSHING | | |
| - | | | J61-0307-05 | WIRE BAND | | |
| 21 | 2B,3B | | K27-1860-04 | KNOB (BUTTON)SPEAKER,LINESTR | | |
| 22 | 3A | | K29-2918-04 | KNOB (BASS,TREBLE) | | |
| 23 | 3A | | K29-2945-04 | KNOB ASSY(MASTER VOL,FRONT BAL | | |
| 24 | 3A | | K29-2947-04 | KNOB(REAR LEVEL/BAL) | | |
| 25 | 3A | | K29-2974-13 | KNOB ASSY(ANALOG) | | |
| 26 | 3A | | K29-2975-13 | KNOB ASSY(CD) | | |
| 27 | 3B | | K29-2976-13 | KNOB ASSY(DAT) | | |
| 28 | 3A | * | K29-2977-04 | KNOB (POWER) | | |
| ⚠ 32 | 2B | * | L01-5192-05 | POWER TRANSFORMER | E | |
| ⚠ 32 | 2B | * | L01-5197-05 | POWER TRANSFORMER | T | |
| | | * | N14-0184-05 | BUILD-IN NUT | | |
| C | 3C | | N09-1954-05 | MACHINE SCREW | | |
| E | 2A | | N09-1445-05 | SET SCREW (M3X8) | | |
| G | 2C,3D | | N09-1960-05 | STEPPED SCREW | | |
| | | * | X00-2550-51 | POWER SUPPLY UNIT | T | |
| | | * | X00-2552-70 | POWER SUPPLY UNIT | E | |
| **POWER SUPPLY UNIT (X00-2550-51: T, 2-70: E)** | | | | | | |
| ⚠ C1 -3 | | | C91-0647-05 | CERAMIC 0.01UF P | | |
| C4 -7 | | | CK45FF1H103Z | CERAMIC 0.010UF Z | | |
| C8 -11 | | | CK45FE2H103P | CERAMIC 0.010UF P | | |
| C12 ,13 | | * | CE04KW2A100M | ELECTRO 10UF 100WV | | |
| C14 | | | CE04KW1E222M | ELECTRO 2200UF 25WV | | |
| C15 | | | CE04KW1V100M | ELECTRO 10UF 35WV | | |

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|---|---|---|---|---|---|---|
| C16 | | | CE04KW1A471M | ELECTRO 470UF 10WV | | |
| C17 | | | CK45FF1H103Z | CERAMIC 0.010UF Z | | |
| ⚠ | | | F29-0072-05 | INSULATING COVER | | |
| ⚠ F1 | 1B | | F06-2021-05 | FUSE (SEMKO) (250V T2A) | | |
| 45 | 1B | | J13-0054-05 | FUSE CLIP | | |
| T1 | | * | L01-5122-15 | POWER TRANSFORMER | E | |
| T1 | | * | L01-5127-15 | POWER TRANSFORMER | T | |
| R2 | | * | RS14KB3D470JTE | FL-PROOF RS 47 J 2W | | |
| R3 | | * | RD14GB2E390JTS | FL-PROOF RD 39 J 1/4W | | |
| R6 ,7 | | | RS14KB3D122JTE | FL-PROOF RS 1.2K J 2W | | |
| ⚠ K1 | | | S51-1036-05 | MAGNETIC RELAY | | |
| K2 | | * | S51-2059-05 | MAGNETIC RELAY | | |
| D1 -4 | | | S5566B | DIODE | | |
| D5 -8 | | | S3V20 | DIODE | | |
| D9 ,10 | | | HSS104A | DIODE | | |
| D9 ,10 | | | 1SS131 | DIODE | | |
| D11 | | * | HZS5.6N(B2) | ZENER DIODE | | |
| D11 | | | RD5.6ES(B2) | ZENER DIODE | | |
| Q1 ,2 | | | 2SD1266(Q,P) | TRANSISTOR | | |
| Q3 | | | 2SC1740S(Q,R) | TRANSISTOR | | |
| Q3 | | | 2SC945(A)(Q,P) | TRANSISTOR | | |
| Q4 | | | 2SC2590(Q,R) | TRANSISTOR | | |
| Q5 | | | 2SA992(F,E) | TRANSISTOR | | |
| **POWER AMPLIFIER UNIT (X07-2442-71)** | | | | | | |
| C1 ,2 | | | CQ09FS1H101JZS | POLYSTY 100PF J | | |
| C3 ,4 | | | CE04KW0J102M | ELECTRO 1000UF 6.3WV | | |
| C5 ,6 | | | CQ09FS1H101JZS | POLYSTY 100PF J | | |
| C7 ,8 | | | C91-0169-05 | POLYSTY 18PF K | | |
| C9 ,10 | | | CE04KW1C220M | ELECTRO 22UF 16WV | | |
| C11 ,12 | | | CF92FV1H363J | MF 0.036UF J | | |
| C15 ,16 | | | CF92FV1H334J | MF 0.33UF J | | |
| C17 ,18 | | | CF92FV1H473J | MF 0.047UF J | | |
| C25 -32 | | | CE04KW2A2R2M | ELECTRO 2.2UF 100WV | | |
| C33 ,34 | | | C90-1400-05 | NP-ELEC 10UF 50WV | | |
| C51 ,52 | | | CK45FE2H103P | CERAMIC 0.010UF P | | |
| C53 ,54 | | | C90-0492-05 | ELECTRO 10000UF 56WV | | |
| C55 ,56 | | | CE04KW1E101M | ELECTRO 100UF 25WV | | |
| C57 -60 | | | CE04KW2A2R2M | ELECTRO 2.2UF 100WV | | |
| C61 ,62 | | | CE04KW1H470M | ELECTRO 47UF 50WV | | |
| C63 ,64 | | | CE04KW1E101M | ELECTRO 100UF 25WV | | |
| C65 ,66 | | | CF92FV1H472J | MF 4700PF J | | |
| C67 -70 | | | CK45FF1H103Z | CERAMIC 0.010UF Z | | |
| C71 ,72 | | | CE04KW1C222M | ELECTRO 2200UF 16WV | | |
| C73 ,74 | | | CE04KW1C330M | ELECTRO 33UF 16WV | | |
| C75 ,76 | | | CE04KW1A101M | ELECTRO 100UF 10WV | | |
| C77 -80 | | | CK45FF1H103Z | CERAMIC 0.010UF Z | | |
| C81 ,82 | | | CE04KW1E222M | ELECTRO 2200UF 25WV | | |
| C83 ,84 | | | CE04KW1A101M | ELECTRO 100UF 10WV | | |
| C85 | | | CE04KW1H010M | ELECTRO 1.0UF 50WV | | |
| C86 | | | CF92FV1H103J | MF 0.010UF J | | |
| C87 | | | CE04KW1V4R7M | ELECTRO 4.7UF 35WV | | |

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|---|---|---|---|---|---|---|
| C88 | | | CE04KW1V221M | ELECTRO 220UF 35WV | | |
| E1 | 2C | | E20-0823-05 | LOCK TERMINAL BOARD(8P) | | |
| E2 | 2B | | E11-0162-05 | PHONE JACK (3P) | | |
| - | | | J61-0307-05 | WIRE BAND | | |
| L1 ,2 | | | L39-0080-15 | PHASE-COMPENSATION COIL | | |
| F | 1C,2C | | N09-0333-05 | TAPPING SCREW (3X12) | | |
| CP1 ,2 | | | R90-0187-05 | MULTI-COMP 0.22X2 K 5W | | |
| R3 ,4 | | | RN14BK2C2870F | RN 287.0 F 1/6W | | |
| R5 ,6 | | | RN14BK2C4222F | RN 42.2K F 1/6W | | |
| R9 ,10 | | | RS14DB3D100JTE | FL-PROOF RS 10 J 2W | | |
| R11 ,12 | | | RD14AB2E4R7JTS | FL-PROOF RD 4.7 J 1/4W | | |
| R13 ,14 | | | RD14AB2E330JTS | FL-PROOF RD 33 J 1/4W | | |
| R15 ,16 | | | RS14DB3D100JTE | FL-PROOF RS 10 J 2W | | |
| R17 ,18 | | | RS14DB3D561JTE | FL-PROOF RS 560 J 2W | | |
| R51 ,52 | | | RS14DB3D272JTE | FL-PROOF RS 2.7K J 2W | | |
| R53 -56 | | | RS14DB3A152JTE | FL-PROOF RS 1.5K J 1W | | |
| R68 | | | RS14DB3D122JTE | FL-PROOF RS 1.2K J 2W | | |
| R69 | | | RD14GB2E100JTS | FL-PROOF RD 10 J 1/4W | | |
| | | | S59-1080-05 | THERMAL SWITCH | | |
| K1 | | | S51-2078-05 | MAGNETIC RELAY | | |
| S1 | 2B | | S42-3111-05 | MULTIPLE PUSH SWITCH | | |
| S2 | 2C | | S40-2175-05 | PUSH SWITCH | | |
| D51 -54 | | | S3V20 | DIODE | | |
| D55 ,56 | | | HZS11N(B2) | ZENER DIODE | | |
| D55 ,56 | | | RD11ES(B2) | ZENER DIODE | | |
| D57 ,58 | | | HZS15S(B) | ZENER DIODE | | |
| D57 ,58 | | | RD15JS(B) | ZENER DIODE | | |
| D59 ,60 | | | 1SS131 | DIODE | | |
| D59 ,60 | | | 1SS178 | DIODE | | |
| D61 -68 | | | S5566B | DIODE | | |
| D69 | | | HZS5.1S(B2) | ZENER DIODE | | |
| D69 | | | RD5.1JS(B2) | ZENER DIODE | | |
| D70 -73 | | | 1SS133 | DIODE | | |
| D70 -73 | | | 1SS176 | DIODE | | |
| IC1 | | | M5220P | IC(OP AMP X2) | | |
| IC2 | | | AN7805F | IC(VOLTAGE REGULATOR/ +5V) | | |
| IC3 | | | AN7905F | IC(VOLTAGE REGULATOR/ -5V) | | |
| Q1 ,2 | | | 2SC2837*5 | TRANSISTOR | | |
| Q3 ,4 | | | 2SA1186*5 | TRANSISTOR | | |
| Q5 ,6 | | | 2SC3419 | TRANSISTOR | | |
| Q51 | | | 2SD1266(Q,P) | TRANSISTOR | | |
| Q52 | | | 2SB941(Q,P) | TRANSISTOR | | |
| **AUDIO UNIT (X09-2622-71)** | | | | | | |
| C1 ,2 | | | CC45FSL1H101J | CERAMIC 100PF J | | |
| C3 -8 | | | CE04KW1H010M | ELECTRO 1.0UF 50WV | | |
| C9 ,10 | | | CC45FSL1H101J | CERAMIC 100PF J | | |
| C11 ,12 | | | CE04KW1H2R2M | ELECTRO 2.2UF 50WV | | |
| C13 ,14 | | | CC45FSL1H101J | CERAMIC 100PF J | | |
| C15 ,16 | | | CC45FSL1H470J | CERAMIC 47PF J | | |
| C17 ,18 | | | CE04KW1A101M | ELECTRO 100UF 10WV | | |
| C19 ,20 | | | CC45FSL1H270J | CERAMIC 27PF J | | |

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|---|---|---|---|---|---|---|
| C21 ,22 | | | CE04KW1V470M | ELECTRO 47UF 35WV | | |
| C23 -26 | | | CF92FV1H223J | MF 0.022UF J | | |
| C27 ,28 | | | CC45FSL1H101J | CERAMIC 100PF J | | |
| C51 ,52 | | | CE04KW1H010M | ELECTRO 1.0UF 50WV | | |
| C53 | | | CE04KW1C470M | ELECTRO 47UF 16WV | | |
| C54 -57 | | | CE04KW1C101M | ELECTRO 100UF 16WV | | |
| C58 ,59 | | | CE04KW1V470M | ELECTRO 47UF 35WV | | |
| C60 | | | CE04KW1V101M | ELECTRO 100UF 35WV | | |
| C61 -63 | | | CE04KW1V100M | ELECTRO 10UF 35WV | | |
| C64 ,65 | | | C90-0558-05 | ELECTRO 3300UF 35WV | | |
| C66 ,67 | | | CK45FE2H103P | CERAMIC 0.010UF P | | |
| C68 | | | CE04KW1A101M | ELECTRO 100UF 10WV | | |
| C69 ,70 | | | C90-1353-05 | NP-ELEC 10UF 25WV | | |
| C71 ,72 | | | C91-0700-05 | CERAMIC 0.1UF J | | |
| E1 | 1C | | E13-0235-05 | PHONO JACK (2P)REAR INPUT | | |
| E2 | 1C | | E11-0165-05 | MINIATURE PHONE JACK(SYSCON) | | |
| E3 | 1C | | E20-0459-05 | LOCK TERMINAL BOARD(REAR SP) | | |
| E4 ,5 | 1D | | E13-0445-05 | PHONO JACK (4P)DIGITAL | | |
| L1 ,2 | | | L39-0085-05 | PHASE-COMPENSATION COIL | | |
| J | 1C | | N09-1236-05 | TAPPING SCREW (3X16) | | |
| R15 -18 | | | RD14AB2E222JTS | FL-PROOF RD 2.2K J 1/4W | | |
| R19 ,20 | | | RS14DB3D100JTE | FL-PROOF RS 10 J 2W | | |
| R21 ,22 | | | RD14AB2E4R7JTS | FL-PROOF RD 4.7 J 1/4W | | |
| R23 ,24 | | | RS14DB3D100JTE | FL-PROOF RS 10 J 2W | | |
| R42 ,43 | | | RD14AB2F100JTS | FL-PROOF RD 10 J 1/4W | | |
| R45 | | | RD14AB2E681JTS | FL-PROOF RD 680 J 1/4W | | |
| R46 ,47 | | | RS14DB3D100JTE | FL-PROOF RS 10 J 2W | | |
| R48 ,49 | | | RD14AB2E101JTS | FL-PROOF RD 100 J 1/4W | | |
| R51 ,52 | | | RD14AB2E102JTS | FL-PROOF RD 1.0K J 1/4W | | |
| R53 | | * | RS14DB3A470JTE | FL-PROOF RS 47 J 1W | | |
| R58 | | * | RD14AB2E121JTS | FL-PROOF RD 120 J 1/4W | | |
| R71 ,72 | | | RS14DB3D180JTE | FL-PROOF RS 18 J 2W | | |
| VR1 | 2B | | R29-5016-05 | POTENTIOMETER (FRONT BALANCE) | | |
| VR2 | 2B | | R29-4014-05 | POTENTIOMETER (MASTER VOLUME) | | |
| K1 | | | S51-2078-05 | MAGNETIC RELAY | | |
| K2 | | | S51-2068-05 | MAGNETIC RELAY | | |
| D1 ,2 | | | 1SS133 | DIODE | | |
| D1 ,2 | | | 1SS176 | DIODE | | |
| D11 -13 | | | 1SS133 | DIODE | | |
| D11 -13 | | | 1SS176 | DIODE | | |
| D14 | | | HZS11N(B) | ZENER DIODE | | |
| D14 | | | RD11ES(B) | ZENER DIODE | | |
| D15 | | | HZS5.1S(B2) | ZENER DIODE | | |
| D15 | | | RD5.1JS(B2) | ZENER DIODE | | |
| D16 | | | RBV-402LFA | DIODE | | |
| D17 -22 | | | 1SS133 | DIODE | | |
| D17 -22 | | | 1SS176 | DIODE | | |
| D23 | | | HSS104A | DIODE | | |
| D23 | | | 1SS131 | DIODE | | |
| D24 -31 | | | 1SS133 | DIODE | | |
| D24 -31 | | | 1SS176 | DIODE | | |
| D32 | | | HSS104A | DIODE | | |

| | | |
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|---|---|---|---|---|---|---|
| D32 | | | 1SS131 | DIODE | | |
| D39 | | | 1SS133 | DIODE | | |
| D39 | | | 1SS176 | DIODE | | |
| IC1 | | | M5218P | IC(OP AMP X2) | | |
| IC1 | | | NJM4560D | IC(OP AMP X2) | | |
| IC2 | | | LC7535 | IC(VOLUME,BALANCE,LOUDNESS) | | |
| IC3 | | | STK4132/2 | IC(AF POWER AMP/ 20W) | | |
| IC4 | | | AN7812F | IC(VOLTAGE REGULATOR/ +12V) | | |
| IC5 ,6 | | | BA6229 | IC(MOTOR DRIVER) | | |
| Q1 ,2 | | | 2SC1740S(Q,R) | TRANSISTOR | | |
| Q1 ,2 | | | 2SC945(A)(Q,P) | TRANSISTOR | | |
| Q7 | | | 2SA733(A)(Q,P) | TRANSISTOR | | |
| Q7 | | | 2SA933S(Q,R) | TRANSISTOR | | |
| Q8 | | | 2SD882(Q,P) | TRANSISTOR | | |
| Q10 | | | 2SC2320(E,F) | TRANSISTOR | | |
| Q11 | | | 2SC1740S(Q,R) | TRANSISTOR | | |
| Q11 | | | 2SC945(A)(Q,P) | TRANSISTOR | | |
| Q15 ,16 | | | 2SA733(A)(Q,P) | TRANSISTOR | | |
| Q15 ,16 | | | 2SA933S(Q,R) | TRANSISTOR | | |
| **PROCESSOR UNIT (X32-1230-00)** | | | | | | |
| D18 | | | B30-1011-05 | LED(SLP-481C-50) | | |
| D20 | | | B30-1011-05 | LED(SLP-481C-50) | | |
| D22 -30 | | | B30-1011-05 | LED(SLP-481C-50) | | |
| C1 -14 | | | CF92FV1H104J | MF 0. 10UF J | | |
| C15 ,16 | | | CF92FV1H102J | MF 1000PF J | | |
| C17 ,18 | | | CF92FV1H752J | MF 7500PF J | | |
| C19 ,20 | | | CF92FV1H183J | MF 0. 018UF J | | |
| C21 -24 | | | CF92FV1H102J | MF 1000PF J | | |
| C25 ,26 | | | CF92FV1H333J | MF 0. 033UF J | | |
| C27 ,28 | | | C90-1396-05 | NP-ELEC 33UF 10WV | | |
| C29 ,30 | | | CC45FSL1H101J | CERAMIC 100PF J | | |
| C40 ,41 | | | CE04JW1H010M | ELECTRO 1. 0UF 50WV | | |
| C42 ,43 | | | CC45FSL1H331J | CERAMIC 330PF J | | |
| C44 ,45 | | | CC45FSL1H101J | CERAMIC 100PF J | | |
| C46 ,47 | | | CK45FB1H471K | CERAMIC 470PF K | | |
| C48 ,49 | | | CC45FSL1H470J | CERAMIC 47PF J | | |
| C50 -53 | | | CF92FV1H334J | MF 0. 33UF J | | |
| C54 -57 | | | CE04JW1V100M | ELECTRO 10UF 35WV | | |
| C58 -61 | | | CF92FV1H183J | MF 0. 018UF J | | |
| C62 ,63 | | | CE04JW1H010M | ELECTRO 1. 0UF 50WV | | |
| C64 ,65 | | | CK45FB1H561K | CERAMIC 560PF K | | |
| C70 | | | CE04KW1H4R7M | ELECTRO 4. 7UF 50WV | | |
| C71 | | | CK45FF1H103Z | CERAMIC 0. 010UF Z | | |
| C72 | | | CE04KW1C330M | ELECTRO 33UF 25WV | | |
| C73 | | | CE04KW1H4R7M | ELECTRO 4. 7UF 50WV | | |
| C74 -78 | | | CK45FF1H103Z | CERAMIC 0. 010UF Z | | |
| C79 | | | CK45FB1H471K | CERAMIC 470PF K | | |
| C80 ,81 | | | CE04KW1A471M | ELECTRO 470UF 10WV | | |
| C82 | | | CE04KW1E221M | ELECTRO 220UF 25WV | | |
| C83 | | | CE04KW1E471M | ELECTRO 470UF 25WV | | |
| C84 -89 | | | CK45FF1H103Z | CERAMIC 0. 010UF Z | | |
| C90 | | | C91-0769-05 | CERAMIC 0. 01UF M | | |
| C91 ,92 | | | CF92FV1H104J | MF 0. 10UF J | | |
| C100,101 | | | C91-0700-05 | CERAMIC 0. 1UF J | | |

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| C102,103 | | | CE04JW1C470M | ELECTRO 47UF 16WV | | |
| C104 | | | CK45FB1H222K | CERAMIC 2200PF K | | |
| C105 | | | CK45FB1H102K | CERAMIC 1000PF K | | |
| C106 | | | CK45FF1H103Z | CERAMIC 0.010UF Z | | |
| C107 | | | CK45FB1H102K | CERAMIC 1000PF K | | |
| C108 | | | CK45FF1H103Z | CERAMIC 0.010UF Z | | |
| C109 | | | CK45FF1H103Z | CERAMIC 0.010UF Z | | |
| E1 | 2D | * | E13-0134-05 | PHONO JACK (COAXIAL) | | |
| | | * | J19-3028-04 | HOLDER | | |
| L1 ,2 | | | L40-4701-16 | SMALL FIXED INDUCTOR(47UH,K) | | |
| L3 ,4 | | | L40-1021-14 | SMALL FIXED INDUCTOR(1.0MH,K) | | |
| L5 -8 | | | L92-0017-05 | FERRITE CORE | | |
| X1 | | | L78-0206-05 | RESONATOR (4.000000MHZ) | | |
| CP1 | | | R90-0462-05 | MULTI-COMP 47KX8 J 1/4W | | |
| VR1 ,2 | 3B | | R06-3058-05 | POTENTIOMETER (BASS,TREBLE) | | |
| K1 | | | S51-2074-05 | MAGNETIC RELAY | | |
| S1 ,2 | 1D,2D | | S31-2094-05 | SLIDE SWITCH (CD,CDV,DAT) | | |
| S3 | 3B | | S40-1064-05 | PUSH SWITCH (POWER) | | |
| S4 -6 | 3B,3C | | S40-1096-05 | PUSH SWITCH (ANAl OG,CD,DAT) | | |
| S7 -10 | 3C | | S40-1064-05 | PUSH SWITCH (REAR LEVEL) | | |
| D1 -14 | | | 1SS133 | DIODE | | |
| D1 -14 | | | 1SS176 | DIODE | | |
| D15 | | | 1SS131 | DIODE | | |
| D15 | | | 1SS178 | DIODE | | |
| D16 ,17 | | | 1SS133 | DIODE | | |
| D16 ,17 | | | 1SS176 | DIODE | | |
| D31 ,32 | | | 1SS133 | DIODE | | |
| D31 ,32 | | | 1SS176 | DIODE | | |
| IC1 | | | TC74HCU04P | IC(HEX INVERTER) | | |
| IC2 | | | TC74HC153P | IC(4CH MPX) | | |
| IC3 | | | CXD1088Q | IC(DIGITAL FILTER) | | |
| IC4 | | * | TDA1541A | IC | | |
| IC5 | | | NJM5532D-D | IC(OP AMP X2) | | |
| IC6 | | * | CXP5034-068S | IC(MICROPROCESSOR) | | |
| IC7 | | | M51951ASL | IC(SYSTEM RESET) | | |
| IC8 | | | M5218P-A | IC(OP AMP X2) | | |
| IC9 ,10 | | | UPC4570C-A | IC(OP AMP X2) | | |
| Q1 ,2 | | | 2SC2878(B) | TRANSISTOR | | |
| Q3 | | | 2SC1740S(Q,R) | TRANSISTOR | | |
| Q3 | | | 2SC945(A)(Q,P) | TRANSISTOR | | |
| Q4 | | | 2SA733(A)(Q,P) | TRANSISTOR | | |
| Q4 | | | 2SA933S(Q,R) | TRANSISTOR | | |
| Q5 | | | 2SC1740S(Q,R) | TRANSISTOR | | |
| Q5 | | | 2SC945(A)(Q,P) | TRANSISTOR | | |
| Q6 ,7 | | | 2SA733(A)(Q,P) | TRANSISTOR | | |
| Q6 ,7 | | | 2SA933S(Q,R) | TRANSISTOR | | |
| A1 ,2 | 2D | | W02-0774-05 | ELECTRIC CIRCUIT MODULE | | |
| **DIGITAL I/O UNIT (X88-1010-00)** | | | | | | |
| C1 | | | CC45FSL1H270J | CERAMIC 27PF J | | |
| C2 | | | CF92FV1H273J | MF 0.027UF J | | |
| C3 | | | CF92FV1H272J | MF 2700PF J | | |

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# PARTS LIST

⋇ New Parts

Parts without **Parts No.** are not supplied.

Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.

Teile ohne **Parts No.** werden nicht geliefert.

| Ref. No.<br>参照番号 | Address<br>位置 | New Parts<br>新 | Parts No.<br>部品番号 | Description<br>部品名／規格 | Destination<br>仕向 | Remarks<br>備考 |
|---|---|---|---|---|---|---|
| C4 | | | CF92FV1H683J | MF 0.068UF J | | |
| C5 | | | C90-1602-05 | NP-ELEC 10UF 10WV | | |
| C6 | | | CF92FV1H103J | MF 0.010UF J | | |
| C7 | | | CE04JW1H010M | ELECTRO 1.0UF 50WV | | |
| C8 -10 | | | CE04JW1A101M | ELECTRO 100UF 10WV | | |
| C11 -14 | | | CK45FF1H103Z | CERAMIC 0.010UF Z | | |
| C15 | | | CC45FSL1H150J | CERAMIC 15PF J | | |
| L1 ,2 | | | L92-0018-05 | FERRITE CORE | | |
| R4 ,5 | | | RD14GB2E100JTS | FL-PROOF RD 10 J 1/4W | | |
| D1 | | | 1SS237(1) | DIODE | | |
| D2 -10 | | | 1SS133 | DIODE | | |
| D2 -10 | | | 1SS176 | DIODE | | |
| IC1 | | | TC17G014AF-0073 | IC(DIGITAL IN) | | |
| IC2 | | | SN74LS624N | IC(VCO) | | |
| IC3 | | | M5223P | IC(OP AMP X2) | | |
| IC4 | | | TC74HCU04F | IC(HEX INVERTER) | | |
| IC5 | | | TC74HC123F | IC(DUAL MONO MULTI) | | |

## MAIN AMPLIFIER UNIT (X89-1020-14)

| Ref. No.<br>参照番号 | Address<br>位置 | New Parts<br>新 | Parts No.<br>部品番号 | Description<br>部品名／規格 | Destination<br>仕向 | Remarks<br>備考 |
|---|---|---|---|---|---|---|
| C1 ,2 | | | CE04KW1H010M | ELECTRO 1.0UF 50WV | | |
| C7 ,8 | | | CF92FV1H822J | MF 8200PF J | | |
| C9 ,10 | | | CC45FSL1H150J | CERAMIC 15PF J | | |
| C11 ,12 | | | CC45FSL1H271J | CERAMIC 270PF J | | |
| C13 ,14 | | | CC45FSL1H330J | CERAMIC 33PF J | | |
| C15 ,16 | | | CK45FB1H681K | CERAMIC 680PF K | | |
| C17 ,18 | | * | CE04KW2A2R2M | ELECTRO 2.2UF 100WV | | |
| C19 ,20 | | | CK45FF1H103Z | CERAMIC 0.010UF Z | | |
| C23 | | | C90-1332-05 | NP-ELEC 10UF 25WV | | |
| C24 | | | CE04KW1C220M | ELECTRO 22UF 16WV | | |
| C26 | | | CE04KW1C330M | ELECTRO 33UF 16WV | | |
| C27 ,28 | | | CC45FSL1H101J | CERAMIC 100PF J | | |
| C29 ,30 | | | CE04KW1H010M | ELECTRO 1.0UF 50WV | | |
| R19 | | | RD14GB2E122JTS | FL-PROOF RD 1.2K J 1/4W | | |
| R20 -22 | | | RD14AB2E122JTS | FL-PROOF RD 1.2K J 1/4W | | |
| R23 | | | RD14GB2E181JTS | FL-PROOF RD 180 J 1/4W | | |
| R24 | | | RD14AB2E181JTS | FL-PROOF RD 180 J 1/4W | | |
| R29 -32 | | | RD14AB2E331JTS | FL-PROOF RD 330 J 1/4W | | |
| R39 -42 | | | RD14AB2E220JTS | FL-PROOF RD 22 J 1/4W | | |
| R43 -46 | | | RD14AB2E221JTS | FL-PROOF RD 220 J 1/4W | | |
| R47 -50 | | | RD14AB2E2R2JTS | FL-PROOF RD 2.2 J 1/4W | | |
| R51 ,52 | | | RD14AB2E100JTS | FL-PROOF RD 10 J 1/4W | | |
| R61 -63 | | | RD14AB2E101JTS | FL-PROOF RD 100 J 1/4W | | |
| R64 | | | RD14GB2E101JTS | FL-PROOF RD 100 J 1/4W | | |
| VR1 ,2 | | | R12-1070-05 | TRIMMING POT.(1K タテ) | | |
| D1 ,2 | | | HZS5.1S(B2) | ZENER DIODE | | |
| D1 ,2 | | | RD5.1JS(B2) | ZENER DIODE | | |
| D3 ,4 | | | 1SS133 | DIODE | | |
| D3 ,4 | | | 1SS176 | DIODE | | |
| D5 -8 | | | 1SS131 | DIODE | | |
| D5 -8 | | | 1SS178 | DIODE | | |
| IC1 | | | UPC1237HA | IC(POWER AMP) | | |
| Q1 -4 | | | 2SC1845(E) | TRANSISTOR | | |
| Q5 -8 | | | 2SC2320(E,F) | TRANSISTOR | | |

| | | |
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# PARTS LIST

⁎ New Parts

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| Ref. No.<br>参照番号 | Address<br>位置 | New Parts<br>新 | Parts No.<br>部品番号 | Description<br>部品名／規格 | Desti- nation<br>仕向 | Re- marks<br>備考 |
|---|---|---|---|---|---|---|
| Q5 -8 | | | 2SC945(A)(Q,P) | TRANSISTOR | | |
| Q9 -12 | | | 2SC1845(F,E) | TRANSISTOR | | |
| Q13 -18 | | | 2SA992(F,E) | TRANSISTOR | | |
| Q19 ,20 | | | 2SC1845(F,E) | TRANSISTOR | | |
| Q21 ,22 | | | 2SC3944(Q,R) | TRANSISTOR | | |
| Q23 ,24 | | | 2SA1535(Q,R) | TRANSISTOR | | |
| Q25 ,26 | | | 2SC2631(R,S) | TRANSISTOR | | |
| Q27 ,28 | | | 2SA1123(R,S) | TRANSISTOR | | |
| Q29 | | | 2SA992(F,E) | TRANSISTOR | | |

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# DA-07

## SPECIFICATIONS

### Power output

| | |
|---|---|
| **Maximum continuous power output (DIN)** | |
| **[Front] 1 kHz at 4 Ω** | 80 W + 80 W |
| **1 kHz at 8 Ω** | 70 W + 70 W |
| **[REAR] 1 kHz at 8 Ω** | 20 W + 20 W |

### Total harmonic distortion

| | |
|---|---|
| **(20 Hz - 20 kHz 8 Ω)** | |
| **Rated output** | 0.01% at 70 W |
| **1/2 rated output** | 0.01% at 35 W |
| **(1 kHz, 8 Ω)** | |
| **Rated output** | 0.0007% at 70 W |

### Signal to noise ratio

| | |
|---|---|
| **(IHF-A)** | 109 dB |

### Input sensitivity/impedance

| | |
|---|---|
| **(at rated output power)** | 155 mV/47 kΩ |

### General

| | |
|---|---|
| **Power consumption** | 250 W |
| **Dimensions** | W: 360 mm (14 - 3/16")<br>H: 134 mm (5 - 1/4")<br>D: 369 mm (14 - 1/2") |
| **Weight** | 11 kg (24.3 lb) |

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**Note:**
**KENWOOD follows a policy of continuous advancements in development. For this reason, specifications may be changed without notice.**

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**Note:**

Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on, the U.S.A. (K) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

KENWOOD CORPORATION
Shionogi Shibuya Building, 17-5, 2-chome Shibuya, Shibuya-ku, Tokyo 150, Japan

KENWOOD U.S.A. CORPORATION
2201 East Dominguez Street, Long Beach, CA 90810;
550 Clark Drive, Mount Olive, NJ 07828, U.S.A.

KENWOOD ELECTRONICS CANADA INC.
P.O. Box 1075 959 Gana Court, Mississauga, Ontario, Canada L4T 4C2

KENWOOD ELECTRONICS BENELUX N.V.
Mechelsesteenweg 418 B-1930 Zaventem, Belgium

KENWOOD ELECTRONICS DEUTSCHLAND GMBH
Rembrücker-Str. 15, 6056 Heusenstamm, West Germany

TRIO-KENWOOD FRANCE S.A.
Hi-Fi·VIDEO·CAR Hi-Fi
13, Boulevard Ney, 75018 Paris, France

TRIO-KENWOOD U.K. LTD.
17 Bristol Road, The Metropolitan Centre, Greenford, Middx. UB6 8UP England

KENWOOD ELECTRONICS AUSTRALIA PTY. LTD.
4E Woodcock Place, Lane Cove, N.S.W. 2066, Australia

KENWOOD & LEE ELECTRONICS, LTD.
Wang Kee Building, 4th Floor, 34-37, Connaught Road, Central, Hong Kong